

Save This Manual
For Future Reference

SEARS

**owner's
manual**

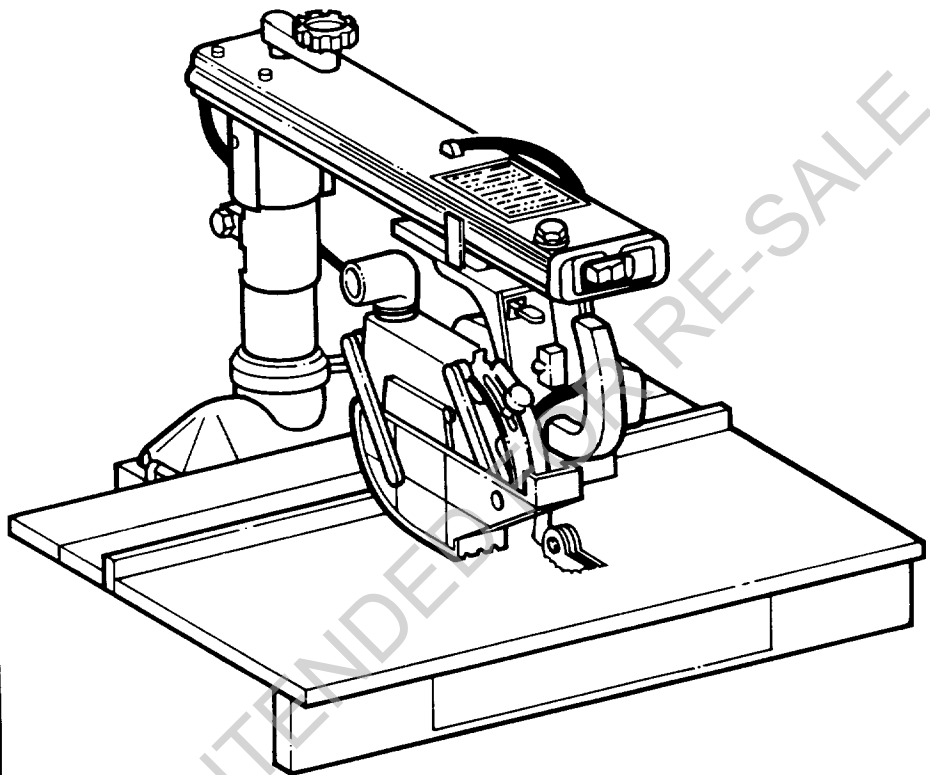
**MODEL NO.
113.234800**

**8-1/4 INCH
RADIAL SAW**

Serial
Number --
Model and serial numbers
may be found on the side
of the support-arm.
You should record both
model and serial number in

FOR YOUR SAFETY:

**READ ALL
INSTRUCTIONS
CAREFULLY**



SEARS / CRAFTSMAN

8-1/4 INCH RADIAL SAW

- assembly
- operating
- repair parts

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.

Part No. SP5646

Form No. SP5646

Printed in U.S.A.

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FULL ONE YEAR WARRANTY ON CRAFTSMAN RADIAL SAW

If within one year from the date of purchase, this Craftsman Radial Saw fails due to a defect in material or workmanship, Sears will repair it, free of charge.

**WARRANTY SERVICE IS AVAILABLE BY SIMPLY CONTACTING THE
NEAREST SEARS SERVICE CENTER/DEPARTMENT THROUGHOUT THE
UNITED STATES.**

This warranty applies only while this product is used in the United States.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Sears, Roebuck and Co., D817 WA Hoffman Estates , IL. 60179

This manual has safety information and instructions to help users eliminate or reduce the risk of accidents and injuries, including:

1. Severe cuts, and loss of fingers or other body parts due to contact with the blade.
2. Eye impact injuries, and blindness, from being hit by a thrown workpiece, workpiece chips or pieces of blade.
3. Bodily impact injuries, broken bones, and internal organ damage from being hit by a thrown workpiece
4. Shock or electrocution
5. Burns.

Safety Symbol and Signal Words

An exclamation mark inside a triangle is the safety alert symbol.

It is used to draw attention to safety information in the manual and on the saw. It is followed by a signal word, DANGER, WARNING, or CAUTION, which tells the level of risk:

⚠ DANGER: means if the safety information is not followed someone **will** be seriously injured or killed.

⚠ WARNING: means if the safety information is not followed someone **could** be seriously injured or killed.

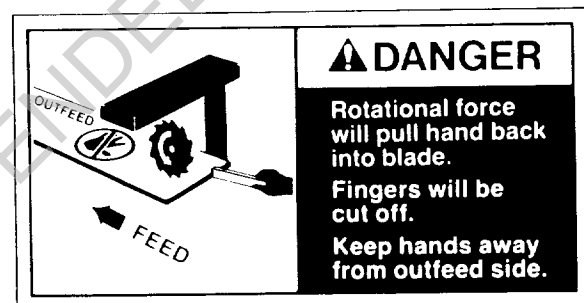
⚠ CAUTION: means if the safety information is not followed someone **may** be injured.

Read and follow all safety information and instructions.

Major Hazards

Three major hazards are associated with using the radial arm saw for ripping. They are outfeed zone hazard, kickback, and wrong way feed. This section only briefly explains these hazards. Read the ripping and crosscutting safety sections for more detailed explanations of these and other hazards.

Outfeed Zone Hazard



If you reach around the blade to the outfeed side when ripping, and try to hold down or pull the workpiece through to complete a cut, the rotational force of the blade will pull your hand back into the blade.

Fingers will be cut off.

Read and follow the information and instructions under ripping safety.

Safety

Kickback Hazard

Kickback is the uncontrolled propelling of the workpiece back toward the user during ripping.

The cause of kickback is the binding or pinching of the blade in the workpiece. Several conditions can cause the blade to bind or pinch.

When a workpiece kicks back, it can hit hard enough to cause internal organ injury, broken bones, or death.

Read and follow the information and instructions under ripping safety.



Wrong Way Feed Hazard

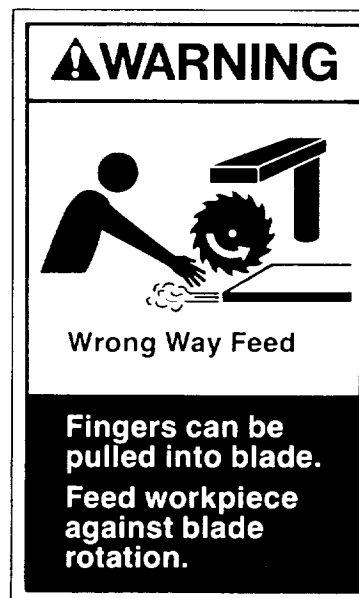
Wrong way feed is ripping by feeding the workpiece into the outfeed side of the blade.

The rotational force of the blade will grab and pull the workpiece.

Before you can let go or pull back, the force can pull your hand along with the workpiece into the blade. Fingers or hand could be cut off.

The propelled workpiece could hit a bystander, causing severe impact injury or death.

Read and follow the information and instructions under ripping safety.

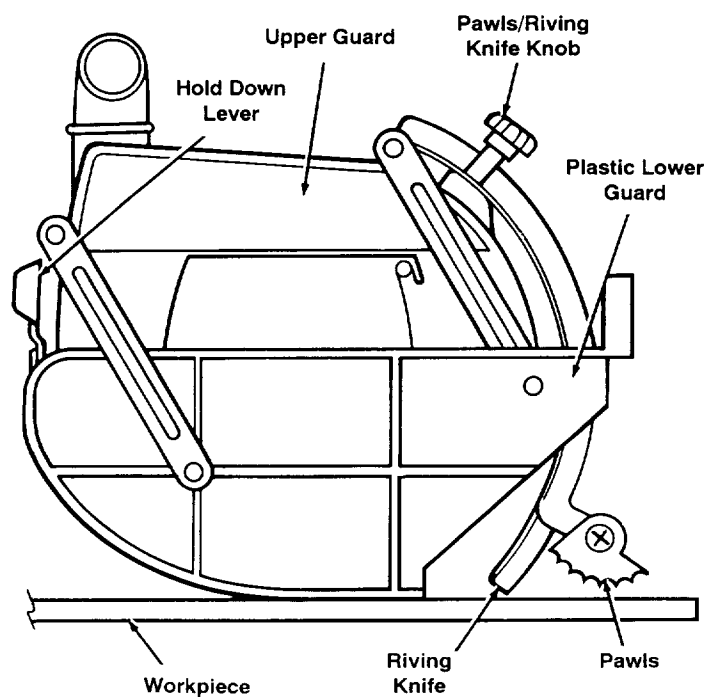
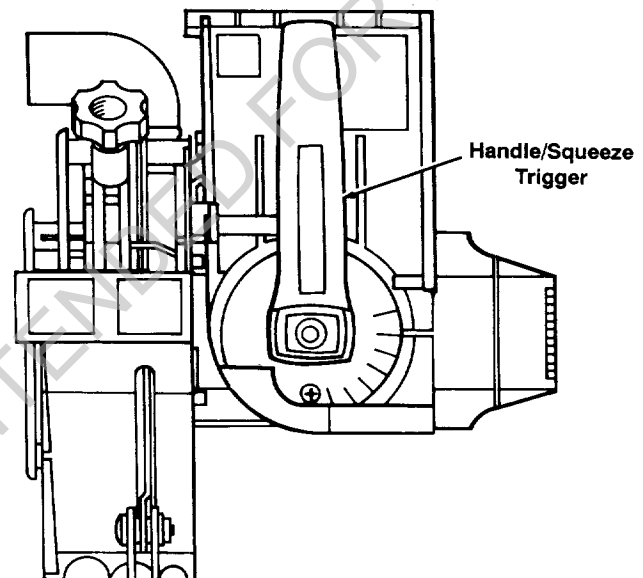


Guard Function and Features

The guard is a very important safety feature, designed to reduce the risk of injury associated with blade contact. **Install the guard correctly. Follow the specific instructions in the ripping and crosscutting sections to set and use the guard correctly for each type of cut.**

Guard Features Include:

1. A non-moveable **metal upper portion**, (Upper Guard) which fully covers the upper half of the blade.
2. A moveable **clear plastic portion**, (Plastic Lower Guard) which partially covers the lower half of the blade. It protects against contact with the side of the blade during crosscutting when blade is in its rear-most position and the guard is resting on the table, so the leading and trailing teeth of the blade are not exposed. It also protects against contact with the outfeed side of the blade during ripping, and acts as a barrier to prevent wrong way feed.
3. A **squeeze trigger** in the saw handle to fully raise the clear plastic guard at the start of a crosscut. **Note:** *This is necessary because the guard will not automatically raise to clear the fence.*
4. A **hold down** to be lowered to just clear the top of the workpiece for ripping. It acts as a barrier to the infeed side of the blade, keeps the workpiece from fluttering, and acts as a sawdust deflector. It is locked/unlocked by the hold down knob.
5. A **ripping knife** to be lowered to the table for ripping. It keeps the workpiece kerf open, thereby reducing blade pinching and the risk of kickback. It also acts as a barrier to the hazardous outfeed side and prevents wrong way feed. It is locked/unlocked by

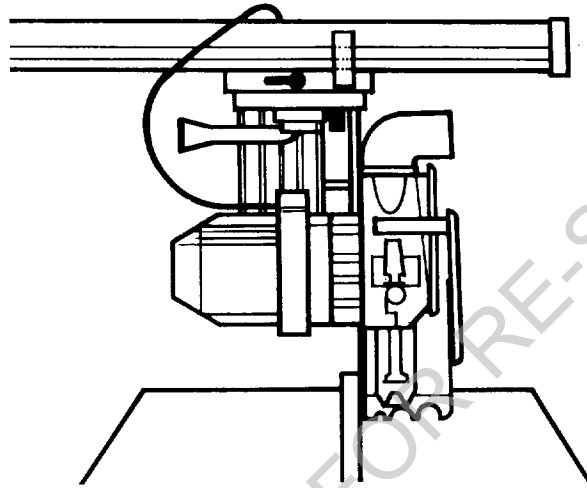


Safety

the pawls/ripping knife knob. When lowered for crosscutting, it acts as a barrier to the leading edge of the blade.

6. Set of **pawls** to be lowered to the workpiece surface for ripping. They allow the workpiece to pass freely from infeed to outfeed side, but help stop the kickback motion from outfeed to infeed side by grabbing into the workpiece surface. **Pawls** must be re-set each time a different thickness workpiece is cut.

7. A **guard tab** to manually raise the plastic guard at the start of ripping unusual workpieces whose size/shape do not cause the guard to raise automatically.



Hazards Associated with Clear Portion of Guard

The following safety information applies to all blades and accessories.

WARNING

Clear plastic portion of guard will not provide any protection during crosscutting if blade is pulled over your hand, or your hand enters blade path from front or rear of blade. Fingers or hand can be cut or cut off.

CAUTION

Clear plastic portion of guard can get caught or jam in fence or table kerfs. Read and follow the warning on the guard:

WARNING:

TO AVOID INJURY
SHUT OFF POWER
BEFORE CLEARING A
JAMMED LOWER GUARD

WARNING

Clear plastic guard will increase risk of certain hazards:

- During rip and bevel cuts, narrow cut-off pieces can be pinched between guard and blade. Cut-off pieces can kickback.
- In bevel position blade teeth are fully exposed. Fingers or hand can be cut off.
- Cut off pieces can jam between guard and blade. Turn saw off and wait for blade to stop before freeing jammed guard or blade.
- Workpiece or cut-off pieces can be violently thrown by blade. Wear safety goggles. Stand out of workpiece path.

Safety Instructions

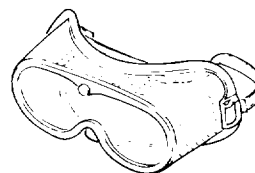
Read and follow all safety instructions.

Personal Safety Instructions

1. Wear safety goggles labeled "ANSI Z87.1" on the package. It means the goggles meet impact standards set by the American National Standards Institute. Regular eye-glasses are not safety goggles.
2. Wear close fitting clothes, short sleeved shirts, and non-slip shoes. Tie up long hair. Do not wear gloves, ties, jewelry, loose clothing, or long sleeves. These can get caught in the spinning blade and pull body parts into the blade.
3. Wear dust mask to keep from inhaling fine particles.
4. Wear ear protectors, plugs or muffs if you use saw daily.
5. Keep good footing and balance; do not over-reach.

Work Area Safety Instructions

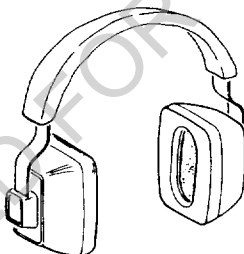
1. Keep children, pets, and visitors out of work area; they could be hit by a thrown workpiece, workpiece chips or pieces of blade.
2. Turn saw off, remove yellow key, and unplug before leaving work area. Do not leave until blade has stopped spinning.
3. Make work area child-proof: remove yellow key to prevent accidental start-up; store key out of sight and reach; lock work area.
4. Keep floors clean and free of sawdust, wax and other slippery materials.
5. Keep work area well lighted and uncluttered.
6. Use saw only in dry area. Do not use in wet or damp areas.



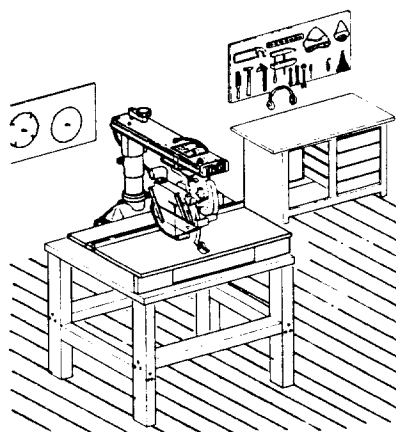
Safety Goggles



Dust Mask



Ear Protectors



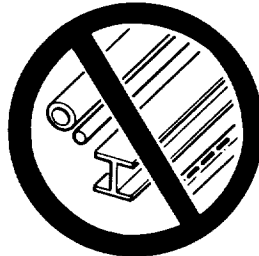
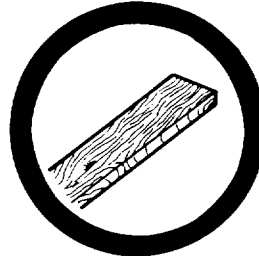
Safety

Saw Safety Instructions

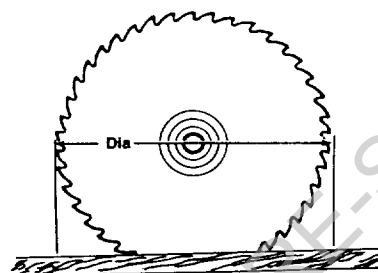
1. Use guard, pawls and riving knife according to instructions. Keep them in working order.
2. Routinely check saw for broken or damaged parts. Repair or replace damaged parts before using saw. Check new or repaired parts for alignment, binding, and correct installation.
3. Unplug saw before doing maintenance, making adjustments, correcting alignment, or changing blades.
4. Do not force saw. Use saw, blades and accessories only as intended.
5. Have yellow key out and saw switched off before plugging in power cord.
6. Before turning on saw, clear table of all objects except workpiece to be cut and necessary fixtures, clamps, or feather-boards.
7. If blade jams, turn saw off immediately, remove yellow key, then free blade. Do not try to free blade with saw on.
8. Turn saw off if it vibrates too much or makes an odd sound. Correct any problem before restarting saw.
9. Do not layout, assemble, or setup work with saw on, or while blade is spinning.
10. Keep saw table clean.
11. Store items away from saw. Do not climb on saw or stand on saw table to reach items because saw can tip over.
12. Do not freehand work. Work piece must always be supported. Use the fence and table or other support devices to prevent the workpiece from twisting during the cutting operation. Twisting of the workpiece can cause it to be thrown.

Workpiece Safety Instructions

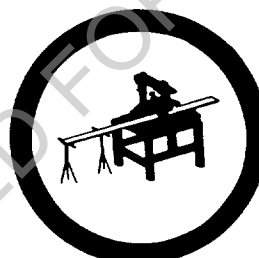
1. Cut only wood, woodlike or plastic materials. Do not cut metal.
2. Cut only one workpiece at a time. Stacking or placing workpieces edge to edge can cause user to lose control of workpiece.



3. Rip only workpieces longer than the diameter of the blade. Do not rip workpieces that are shorter than the diameter of the blade being used.



4. Workpieces that extend beyond the saw table can shift, twist, rise up from the table, or fall as they are cut or afterwards. Support workpiece with table extensions the same height as the saw table.



5. To prevent tipping, support outer ends of extensions with sturdy legs or an outrigger.

6. Do not use another person to help support workpieces or to aid by pushing or pulling on workpieces, because these actions can cause kickback. Use table extensions.



7. Use clamps or vice to hold workpiece. It's safer than using your hands.

Blade Safety Instructions

1. Use only blades marked for at least 5100 rpm.
2. Use only 8-1/4" diameter blades.
3. Use blades for their recommended cutting procedures.
4. Keep blade sharp and clean.

5. Do not overtighten blade nut because blade collar could warp.

6. Do not turn saw on and off in rapid sequence because blade can loosen.

7. Blade should stop within 15 seconds after saw is switched off. If blade takes longer, the saw needs repair. Contact Sears Service Center.

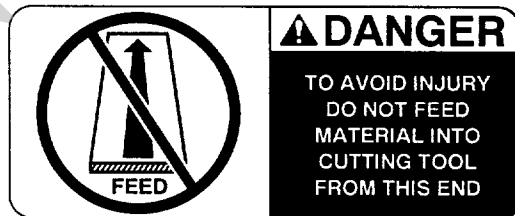
Safety

On-Product Safety Labels

There are several safety labels on the saw. They alert the user to hazards explained in the manual and remind the user how to avoid the hazard.

Note where they are located on the saw. Read and follow the safety information and instructions in these labels. Refer to the manual for detailed explanations and instructions.

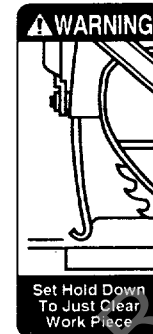
On the **outfeed side of the guard** are these two safety labels to alert you to **wrong way feed**:



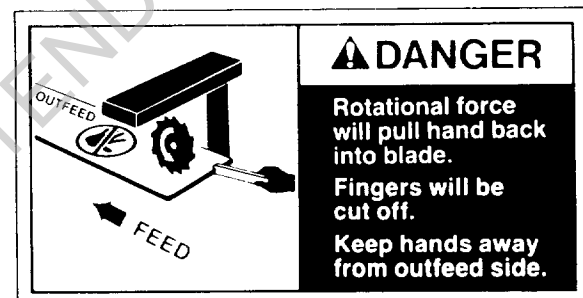
On the **clear plastic guard** is this label:



On the **infeed side of the guard** is this safety label to remind you to lower the hold down to just clear the top of the work-piece for ripping:



On the **side surface of the motor**, visible from the infeed side when the saw is in a rip position, is this safety label to alert you to **outfeed zone hazard**:

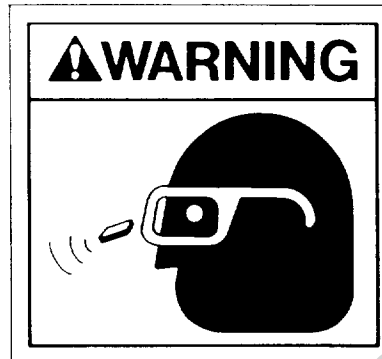


On the **bottom surface of the motor**, visible when the blade is horizontal is this safety label to alert you to **unguarded blade**:

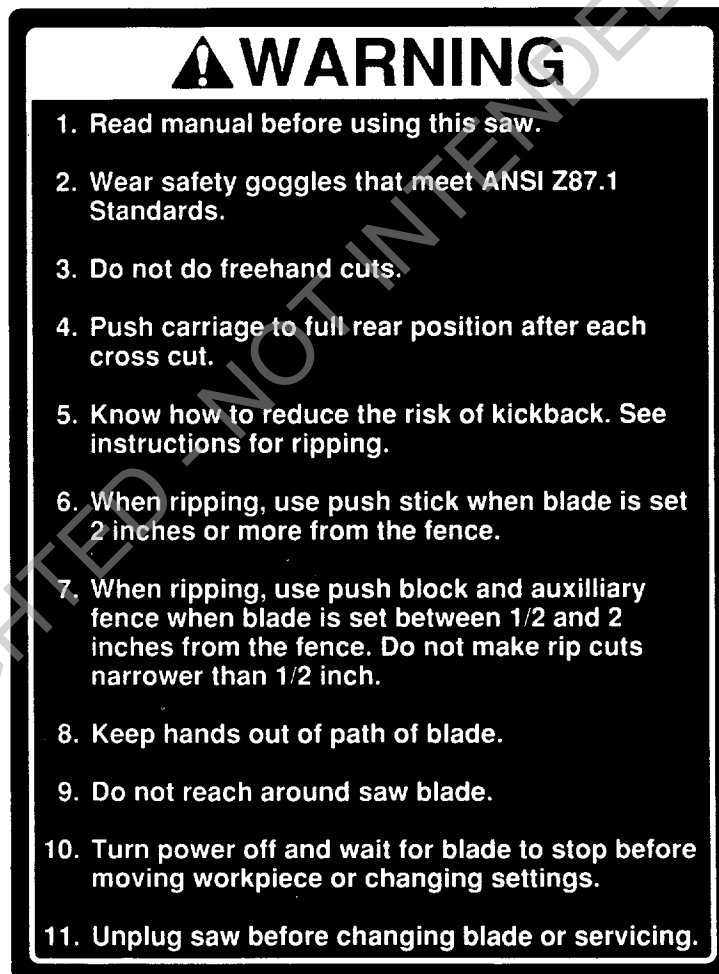


Safety

Near the saw handle is this safety label to alert you to **thrown objects** and to remind you to **wear safety goggles**:



On the **top of the radial arm** is this **general warning** label:



Assembly

Introduction

In order to get the most enjoyment out of your radial saw it is important that the machine be properly assembled, adjusted, and aligned. This procedure, although not difficult, takes time; perhaps eight hours or longer for the inexperienced user. However, after this initial set-up a weekly tune-up can be completed in approximately ten minutes by checking the alignment and only adjusting those settings which are incorrect.

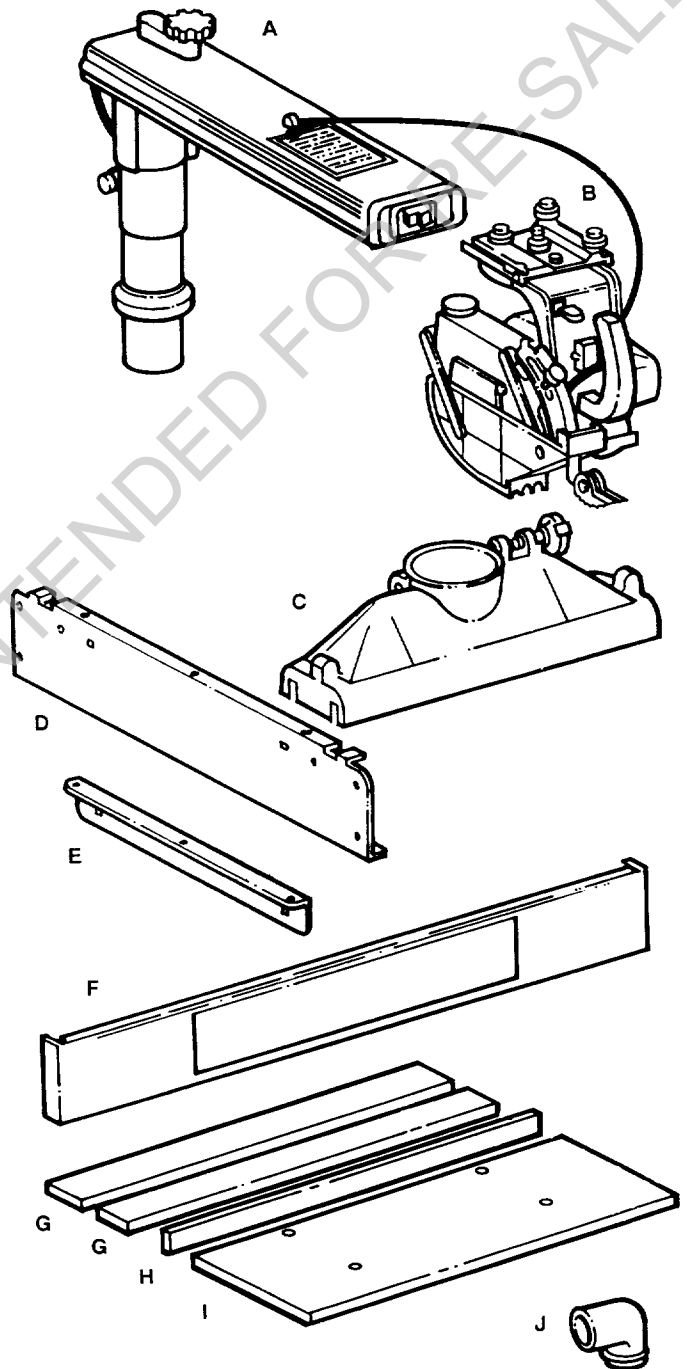
Identifying Parts

The following parts are included:

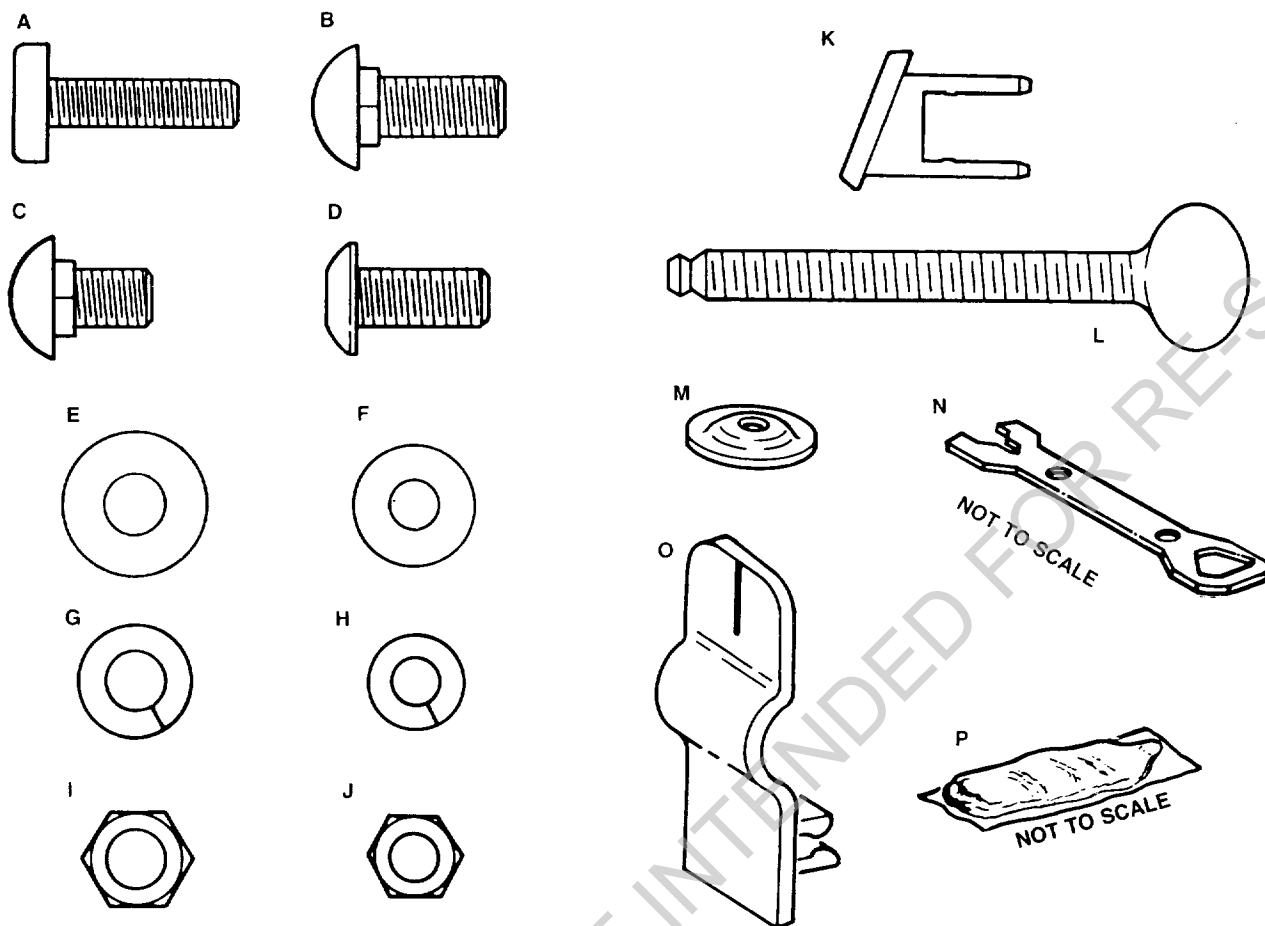
Note: Before beginning assembly, check that all parts are included. If you are missing any part do not assemble the saw. Contact your Sears Service Center or Retail Store and get the missing part. Sometimes small parts can get lost in packaging material. Do not throw away any packaging until saw is put together. Check packaging for missing parts before contacting Sears. A complete parts list (Repair Parts) is at the end of the manual. Use the list to identify the number of the missing part.

A. Radial Arm	1
B. Blade Carriage	1
C. Base	1
D. Side Frame	2
E. Table Support	2
F. Front Stiffener	1
G. Rear Table	2
H. Rip Fence	1
I. Front Table	1
J. Dust Elbow	1

Note: Parts A and B should be left in box until further instructions are given.



Assembly

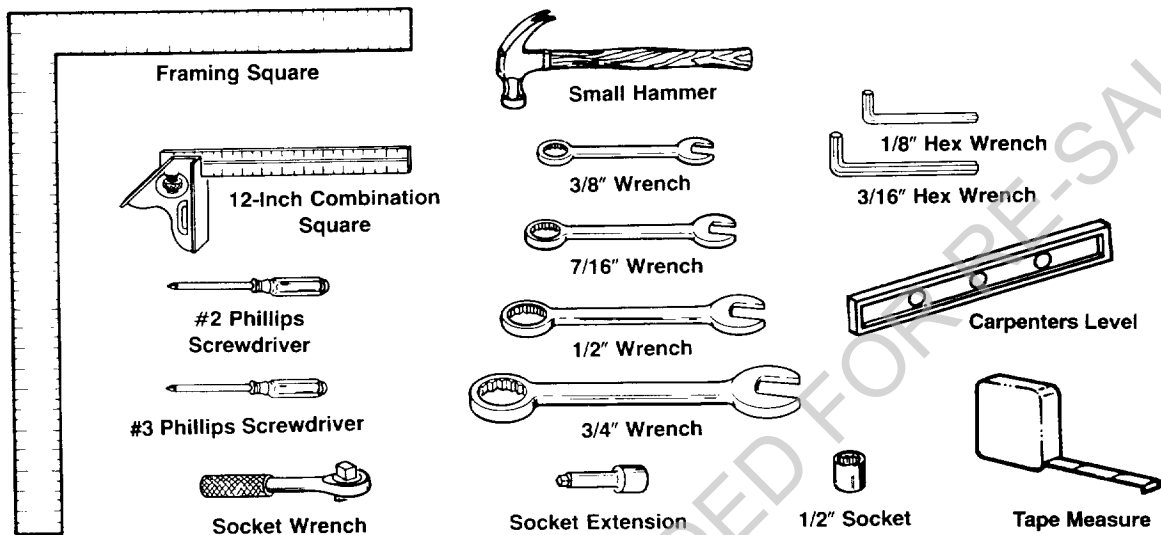


The following hardware is included:

A. Phillips Pan Head Screw, 1/4" diameter by 1"	4	H. Lock Washer, 1/4" diameter	4
B. Carriage Bolt, 5/16" diameter by 3/4"	4	I. Nut, 5/16"	12
C. Carriage Bolt, 5/16" diameter by 1/2"	4	J. Nut, 1/4"	4
D. Truss head bolt, 5/16" diameter by 5/8"	4	K. Yellow Key	1
E. Flat Washer, 5/16" diameter	12	L. Table Clamp Screw	2
F. Flat Washer, 1/4" diameter	4	M. Table Clamp Washer	2
G. Lock Washer, 5/16" diameter	12	N. Blade Wrench	2
		O. Rip Scale Indicator	2
		P. Grease Packet	1

Assembly

Tools needed for Assembly and Alignment



Assembly Steps

It is important for your safety and to achieve accurate cuts that you put the saw together according to these instructions. Follow these steps **in order**.



WARNING

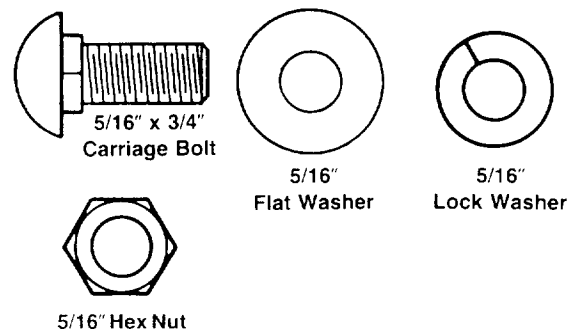
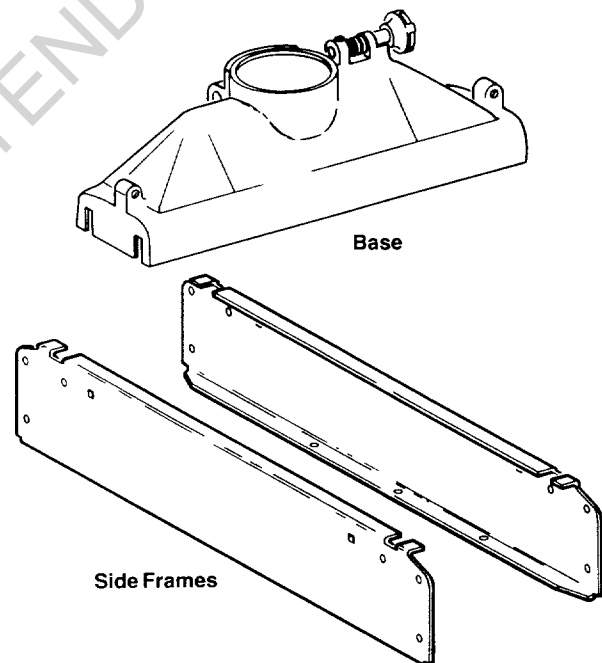
Plugging in saw during assembly can result in electrical shock, or severe cuts from contact with spinning blade.

Do not plug in saw at any time during assembly. Plug in saw only when it is to be used.

Base Assembly

1. Set out:

- base
- two side frames
- four carriage bolts, 5/16" diameter by 3/4"
- four 5/16" diameter flat washers
- four 5/16" diameter lock washers
- four 5/16" diameter nuts.



Assembly

2. Position base so that edge is off work surface.

3. From inside surface, put carriage bolt through slot in base and hold in place at highest point.

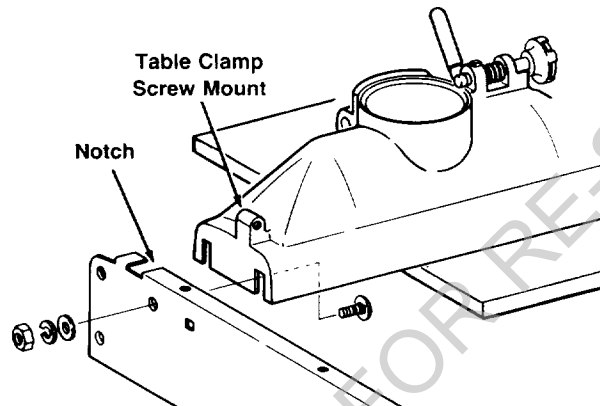
4. Slide side frame into place on base so that table clamp screw mount fits into notch on side frame.

5. On end of bolt put flat washer, then lock washers, then nut and finger tighten.

Note: Later in assembly, these will be wrench tightened.

6. Repeat for other slot of base.

7. Repeat for other side frame.



8. Set out:

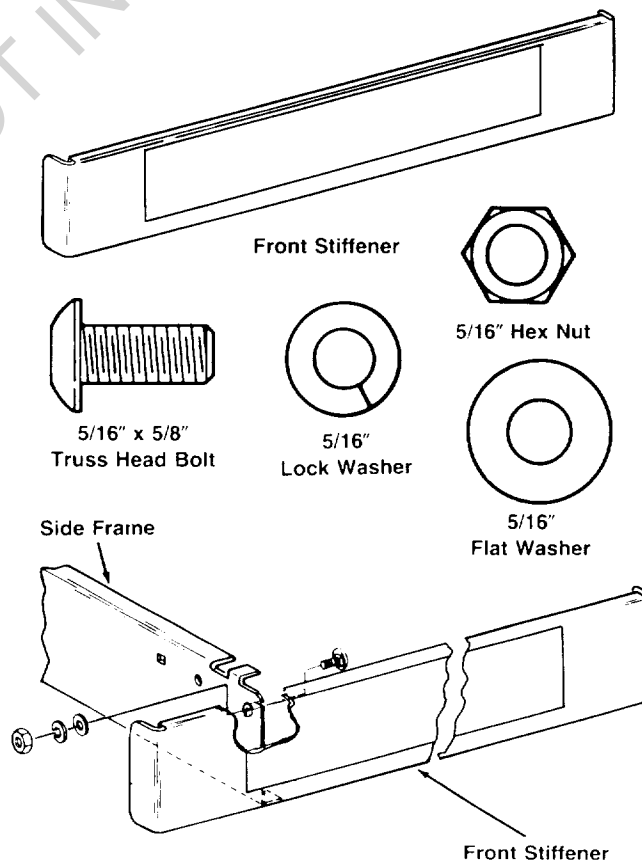
- front stiffener
- four truss head bolts 5/16" diameter by 5/8"
- four 5/16" diameter flat washers
- four 5/16" diameter lock washers
- four 5/16" diameter nuts.

9. Place front stiffener between side frames so that tabs of stiffener stay on inside of side frames.

10. Put bolt through hole in front stiffener tab and through side frame.

11. On end of bolt put flat washer, then lock washer, then nut and wrench tighten.

12. Repeat for other 3 holes.



Blade Carriage to Radial Arm Assembly

Note: *It may be easier to do this assembly with the parts still in the box because they are connected by a cord; otherwise you will need help to lift both parts out of the box at the same time.*

1. Set out:

- radial arm
- blade carriage.

2. Look inside arm towards switch housing to locate two screws that hold front trim to switch housing. Remove these two screws and front trim.

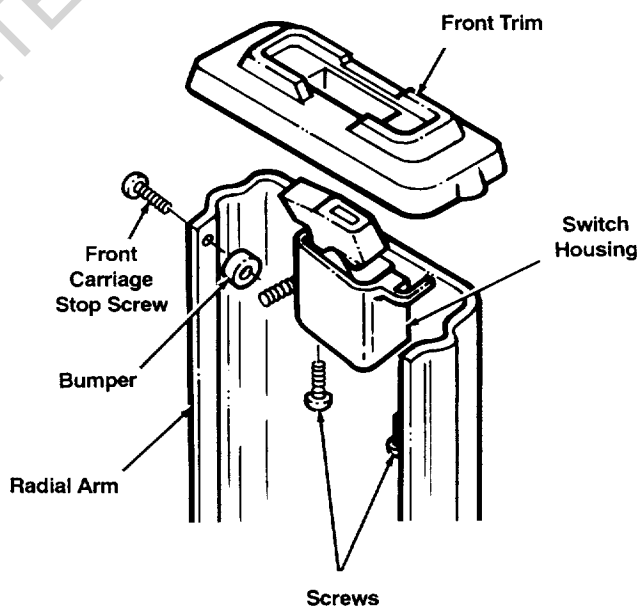
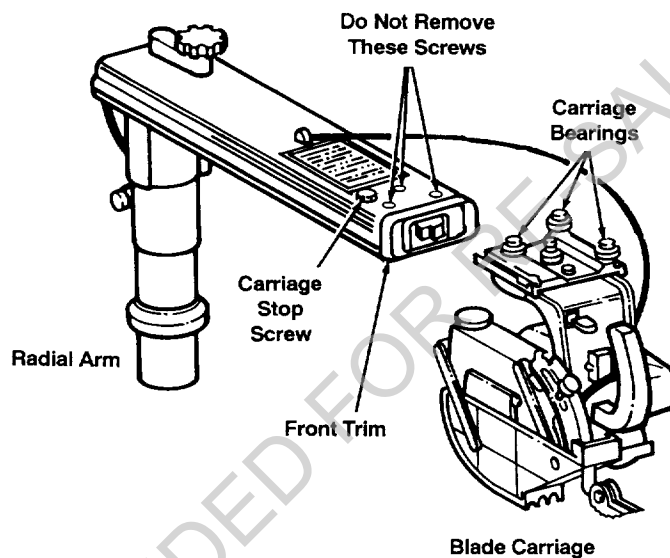


WARNING:

Do not remove screws on top of radial arm. Removal of these screws affects integrity of switch assembly and can create an electrical hazard.

3. Use a No. 3 Phillips screwdriver to remove front carriage stop screw and bumper from end of arm.

4. Use 1/2" wrench to loosen carriage stop screw on top of radial arm about 3/4" (enough to let blade carriage to clear when inserted).



Assembly

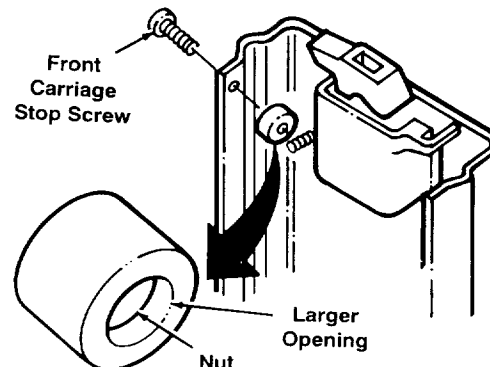
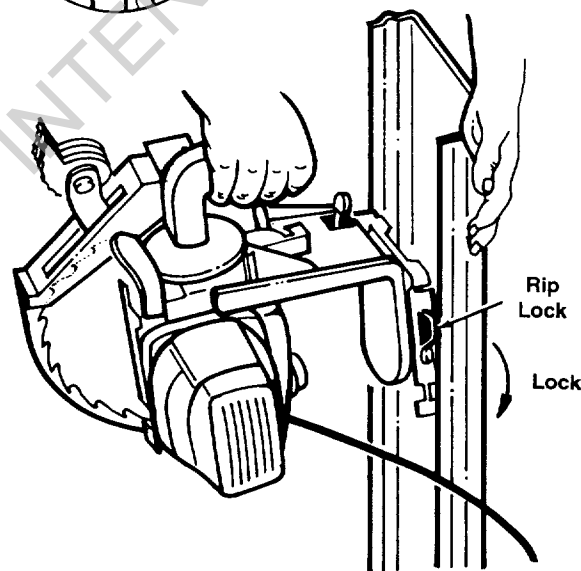
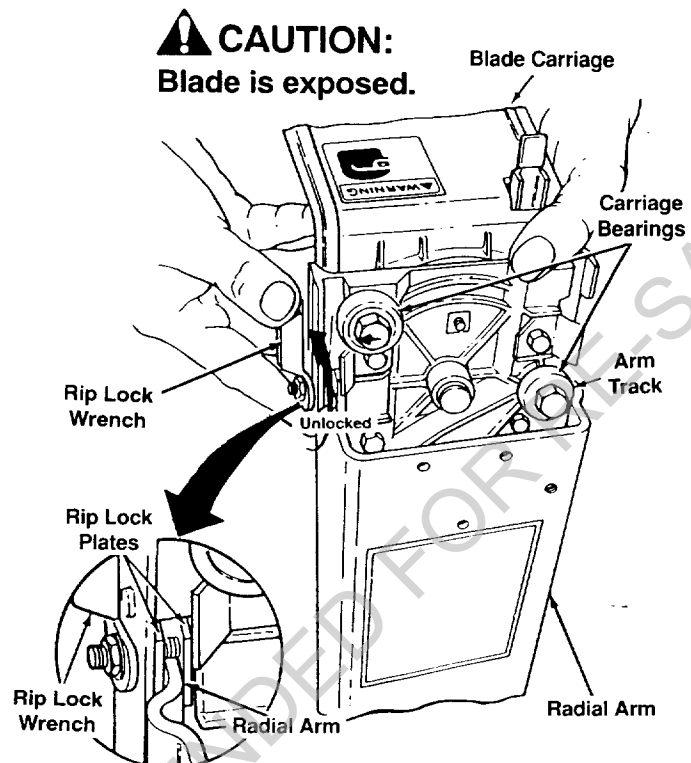
5. Position radial arm so that arm is straight up in air.

6. Slide blade carriage onto radial arm, so that carriage bearings fit into radial arm track. **Note:** In correct orientation, single bearing is on left, two bearings are on right as you look down radial arm. Insure that the rip lock wrench is in the disengaged position. Spread the rip lock plates such that one rip lock plate is on the left side of the arm, and one is on the right side (see illustration). **Note:** If the carriage can be moved by pushing and pulling on the saw handle when the rip lock is locked, the lock needs adjustment. To adjust:

- Lock rip lock. Use screwdriver to pop out “e” ring.
 - Remove rip lock handle and use as wrench to tighten nut.
 - Test for desired locked/unlocked condition. Repeat step b. if necessary.
 - Re-insert “e” ring.
7. Push rip lock lever clockwise to lock blade carriage in place on radial arm.
8. Re-install front carriage stop screw and bumper, making sure that nut is still in bumper and that larger opening of bumper faces switch housing. Tighten with screwdriver. Wrench tighten carriage stop screw on top of radial arm.
9. Re-install front trim.

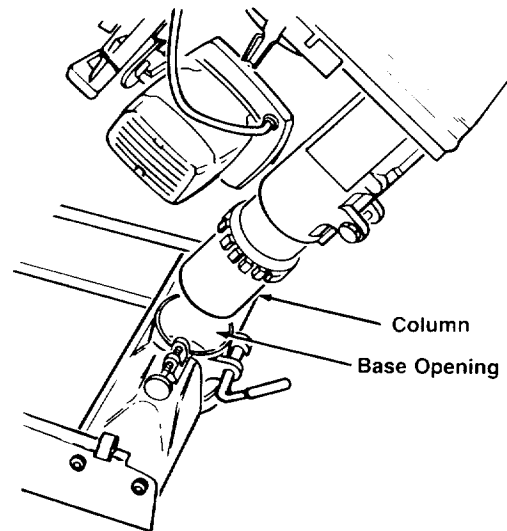
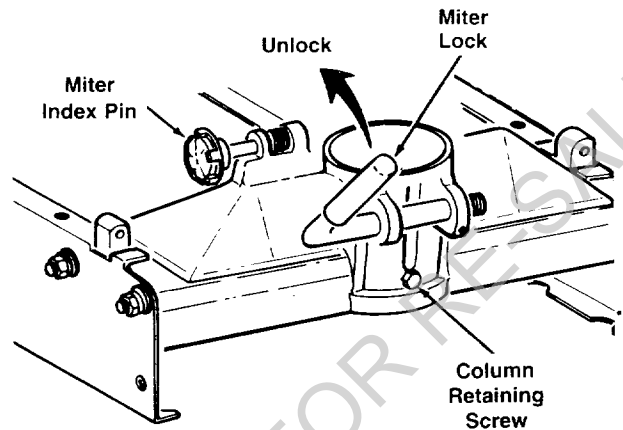
⚠ DANGER:

Re-install carriage stop screws and bumper, and tighten. These stop screws are necessary to insure that the carriage stays on the arm at all times. Never operate the saw without stop screws firmly tightened in position.



Radial Arm to Base Assembly

1. Remove column retaining screw from base enough so column can clear when inserted.
2. Unlock miter lock. Pull out miter index pin and turn 90° to lock out.
3. Get grease packet. Being careful of sharp edges which may be present in base opening, evenly spread grease around inside of base opening. Notice shoulder at bottom of base.
4. Insert column into base opening, pushing down until column goes all the way down to rest on shoulder at bottom of base.
5. Use a wrench to re-install column retaining screw and tighten securely.
6. Turn miter index pin 90° to allow it to engage indexed position.
7. Lock miter lock. (Reference miter lock adjustment section).

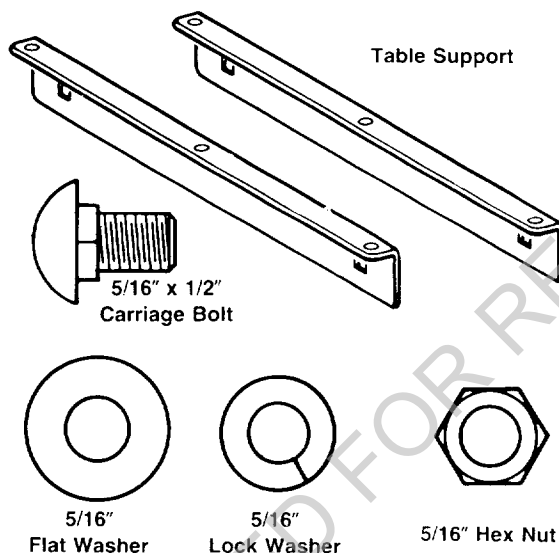


Assembly

Table Support Assembly

1. Set out:

- two table supports
- four carriage bolts 5/16" diameter by 1/2"
- four 5/16" diameter flat washers
- four 5/16" diameter lock washers
- four 5/16" diameter nuts.



2. Place table support against side frame so that rectangular openings line up with square openings in side frame, and narrow edge is on top and outside.

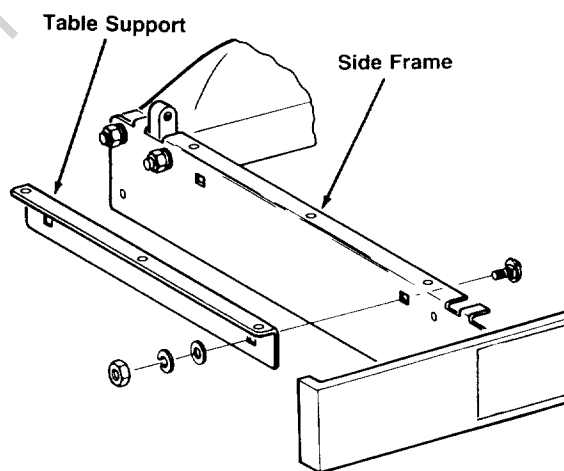
3. Put bolt through square opening in side frame from inside surface.

4. On end of bolt put flat washer, then lock washer, then nut and finger tighten.

Note: Later, in alignment, these will be wrench tightened.

5. Repeat for other opening.

6. Repeat for other table support.



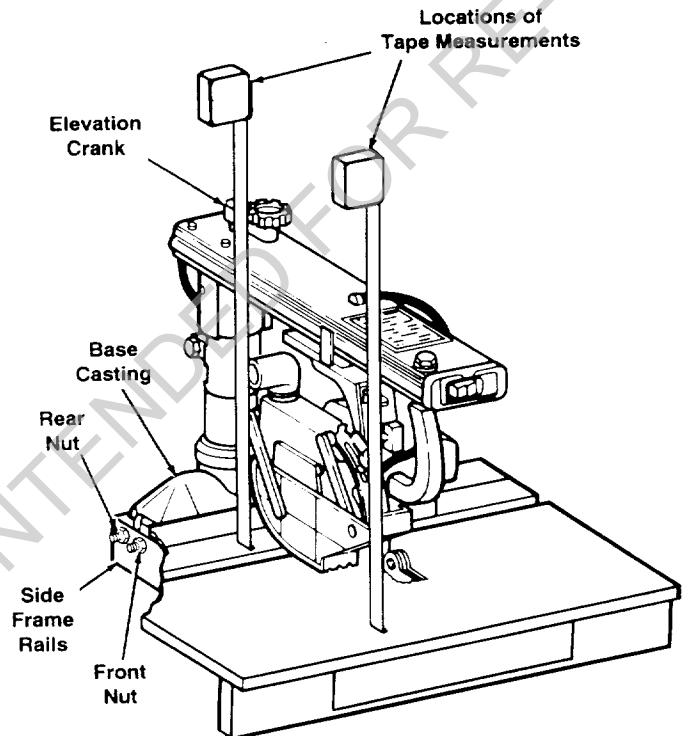
Making Radial Arm Parallel to Frame

The radial arm must be parallel to the frame so that when lowered onto the table, the blade will be the same distance from the table at all points.

1. Lock miter lock.
2. Unlock rip lock. Pull blade carriage to midway position along radial arm as shown. Lock rip lock.
3. Place front and rear table boards onto side frame rails as shown. Do not bolt them down at this time.
4. Wrench tighten the bolts which fasten the side frame rails to the base casting until they are just snug.
5. Lower the arm with the elevation crank until the blade rests on the table. If turning the elevation crank is difficult, turn to the Alignment Section of the manual for adjustment instructions. Turn the elevation crank to change the position of the arm until it is near to being parallel to the table.
6. Use a tape measure to determine the distance from the lower lip of the arm and the top surface of the table boards at the two locations shown. These two height measurements need to be within $\frac{1}{8}$ " of each other.

Note: The actual distance between the arm and the table doesn't matter, as long as these two measurements are within an $\frac{1}{8}$ " of each other. This relationship between the arm and the table surface will be fine tuned in the section titled *Alignment and Adjustment*.

7. Tighten the front and rear nuts on the side frame rails on both sides of the base casting.
8. Check that the distance between the arm and the table is within $\frac{1}{8}$ " at the positions shown. Re-adjust if necessary.



Assembly

Mounting Saw to a Workbench or Table (All)

1. Using elevation crank, raise blade above table.
2. Remove loose table boards and move the motor carriage to the rearmost position and lock the rip lock.
3. Place the Radial Saw on the bench or table where it will be mounted.

Note: If you are planning to mount the saw to the accessory leg set follow the instructions included with leg set. See Accessories section for more information.

See instructions below to mount saw to a plywood board.

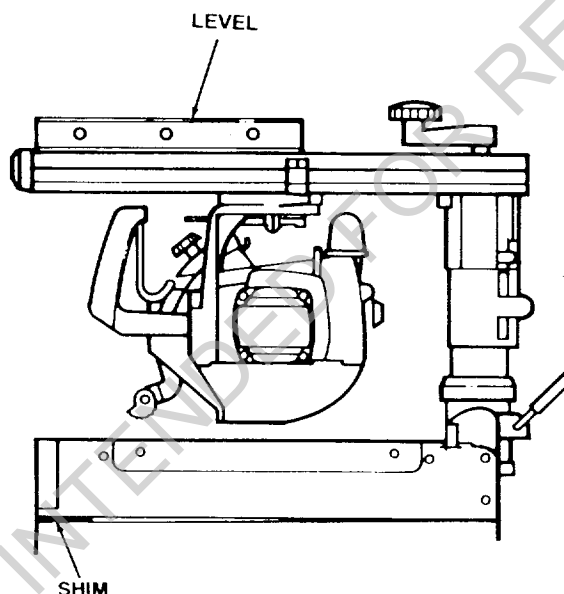
4. Transfer the mounting hole locations from the saw to your mounting surface. These holes will be found on the inside bottom of the side frames. Use the front and rear most holes on each side.
5. Set the saw to one side and drill four 5/16" diameter holes in your table or workbench.
6. Bolt the frame to the mounting surface. (These bolts are not provided).
7. Rest level on top of radial arm. If needed, put a shim under the front frame to make saw slant slightly toward rear.

⚠ WARNING:

Saw must slant slightly toward rear to keep blade carriage from rolling forward. Whenever saw is moved, check to be sure the front is slightly higher than the rear.

Portable applications (Plywood Mount)

To mount the saw to a 3/4" piece of plywood, use the 4 holes mentioned above. Attach the saw to these holes as described above. The mounting board should then be clamped down at the worksite to prevent it from tipping. The plywood mount helps to protect the saw from damage during the rough handling associated with portable usage.



Assembly

Install Rip Scale Indicators, Table Clamp Screws, and Dust Elbow

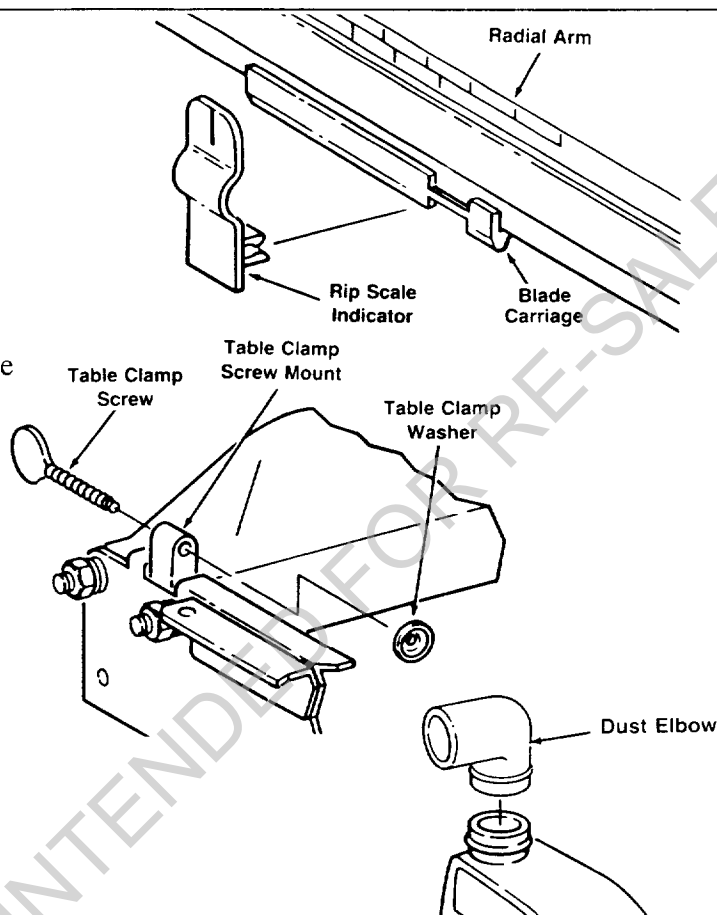
1. Set out:

- two scale indicators
- two table clamp screws
- two table clamp washers
- dust elbow.

2. Snap one indicator onto each side of blade carriage.

3. From rear, screw table clamp screws through holes in table clamp mounts, until screw protrudes enough to top on washer.
Note: *Concave side of washer faces table edge.*

4. Push dust elbow onto opening on top of guard.



Front Table Assembly

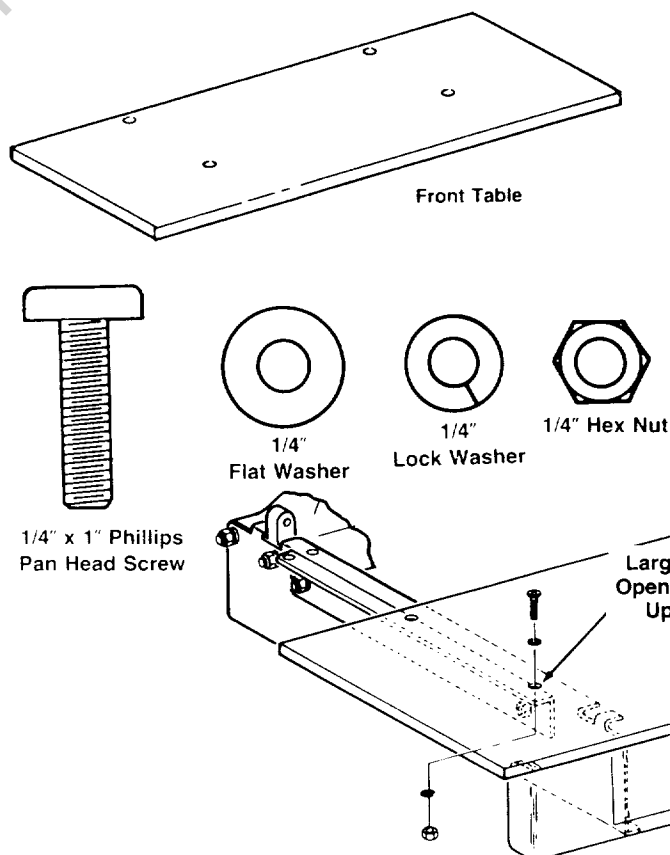
1. Set out:

- front table
- four phillips pan head screws 1/4" diameter by 1"
- four 1/4" diameter flat washers
- four 1/4" diameter lock washers
- four 1/4" diameter nuts.

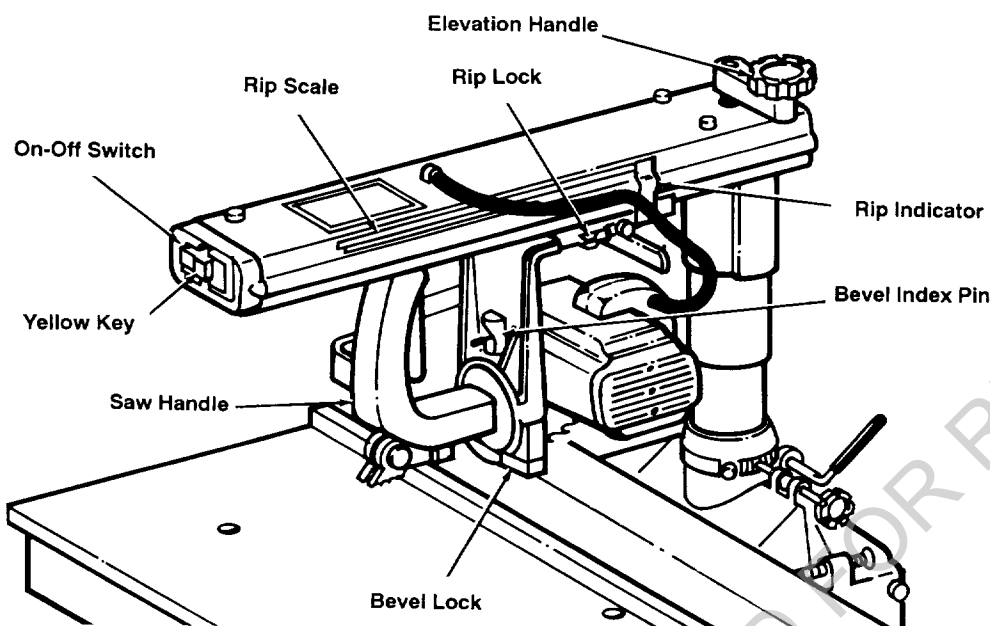
2. Place table so that larger holes face up. Align table over middle and front holes in table supports. **Note:** *Table will extend over front edge of frame.*

3. Drop flat washer into each hole, then insert screw. From underneath surface, on end of each screw put lock washer, then nut. Hold in place and tighten with screw driver.

You cannot use the saw until it is aligned. Go to Alignment and Adjustment Section and follow all instructions. It may be helpful to read the Controls Section before proceeding with alignment and adjustment.

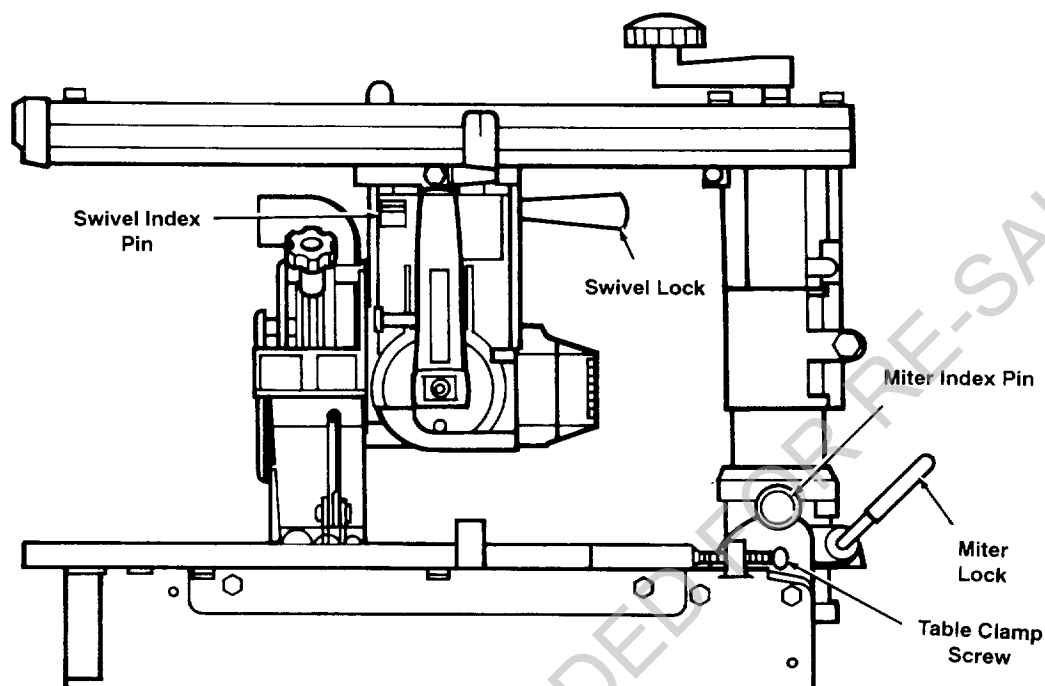


Controls



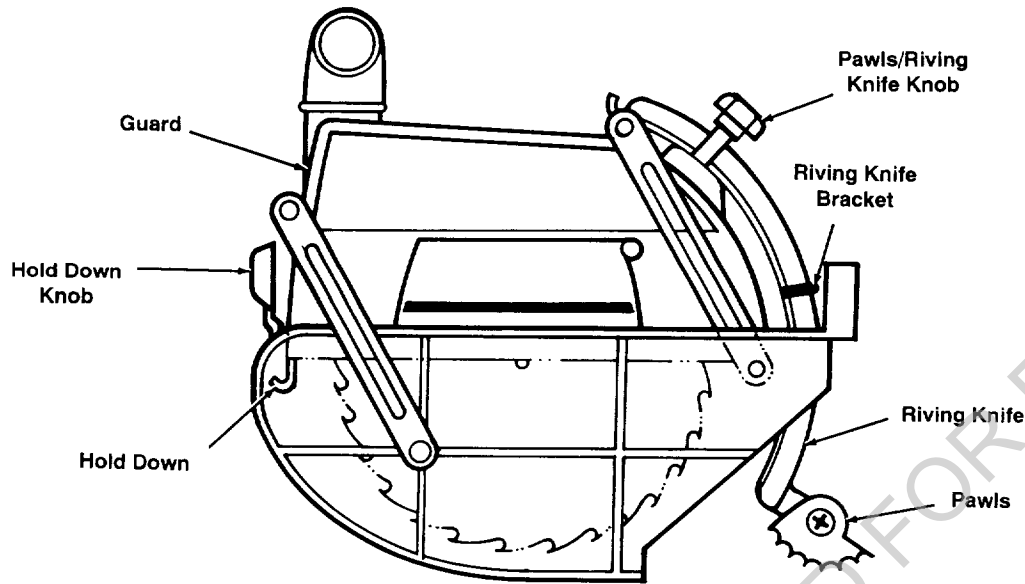
<u>Control</u>	<u>Function</u>	<u>Operation/Comments</u>
On-Off Switch	Turns motor on-off	Pull on, push off <i>Requires yellow key</i>
Yellow Key	Allows saw to be switched on	Insert into on-off switch, remove after turning saw off
Elevation Handle	Lowers/raises radial arm	Turn clockwise to lower, counterclockwise to raise
Rip Scale and Rip Indicator	Tells distance between blade and fence when saw is in rip position	Move blade carriage along arm to align line on indicator with desired number on scale
Rip Lock	Frees carriage to move along radial arm; locks at desired position	Move clockwise to lock, counterclockwise to unlock <i>Lock before ripping</i>
Bevel Lock	Frees motor to rotate; locks in desired position	Pull to unlock, push to lock <i>Works with bevel index pin</i>
Bevel Index Pin	After bevel lock is unlocked, allows motor to rotate to indexed positions at 0°, 45°, 90°	Push to right and hold while rotating motor, then release. <i>Then lock bevel lock</i>
Saw Handle	Provides grasping surface so carriage can be moved. Contains trigger mechanism to fully raise clear plastic guard when making a crosscut.	Grasp to move blade carriage <i>Squeeze trigger to raise clear plastic guard fully. Clear guard must be raised over fence to crosscut.</i>

Controls



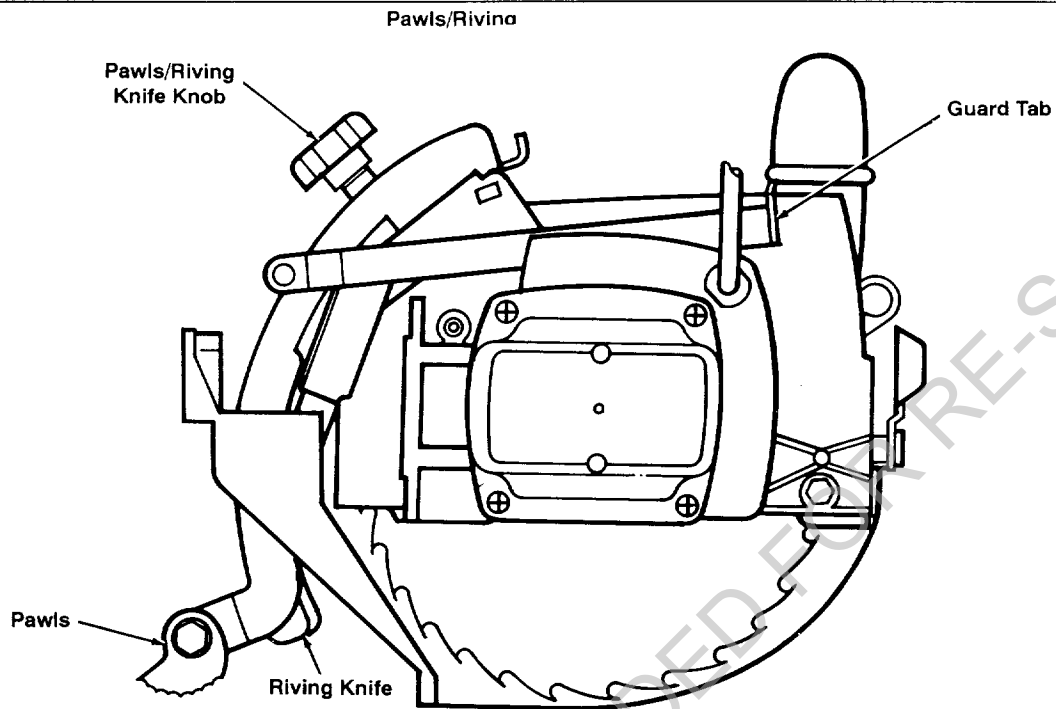
<u>Control</u>	<u>Function</u>	<u>Operation/Comments</u>
Swivel Lock	Frees blade carriage to rotate between crosscut and rip position; locks in place	Pull to unlock; push to lock <i>Works with swivel index pin</i>
Swivel Index Pin	After swivel lock is unlocked, allows carriage to rotate to indexed positions for crosscut, in-rip, out-rip	Push down and hold while rotating carriage, then release <i>Then lock swivel lock</i>
Miter Lock	Frees radial arm and column to rotate into desired miter position	Move clockwise to lock, counterclockwise to unlock <i>Works with miter index pin</i>
Miter Index Pin	Locates radial arm and column in indexed miter positions at 0°, 22.5° right and left, and 45° right; allows arm to be set at any miter position	Pull out and hold while moving arm to any indexed position, then release. To set to a non-indexed position, pull out, turn 90° and release to lock out; move arm to any miter position <i>Then lock miter lock</i>
Table Clamp Screw	Frees table sections to allow fence changing	Turn clockwise to tighten, counterclockwise to loosen

Controls



<u>Control</u>	<u>Function</u>	<u>Operation/Comments</u>
Guard	Protects against contact with upper blade; partially protects against contact with lower blade; acts as sawdust deflector	Upper part remains fixed in level position. <i>Notch in guard fits securely into matching tab on motor</i> Clear guard is moveable: raise fully over fence at start of cross-cut; <i>See Saw Handle</i> ; most workpieces will automatically raise clear guard during ripping; <i>See Guard Tab</i>
Hold Down Knob	Frees hold down to move up and down; locks hold down in place	Turn counterclockwise to loosen, clockwise to tighten
Hold Down	During ripping, acts as partial barrier to infeed side of blade; keeps infeed side of workpiece from fluttering; acts as sawdust deflector	For ripping, lower hold down to top of workpiece surface, then raise slightly and lock in place. For crosscutting lock in fully raised position
Riving Knife Bracket	Prevents side to side movement of riving knife and provides means for adjusting alignment	Loosen to align riving knife, then tighten

Controls



<u>Control</u>	<u>Function</u>	<u>Operation/Comments</u>
Guard Tab	Provides manual way to raise clear plastic guard during ripping when workpiece fails to raise it	Push and hold until workpiece clears guard, then release
Pawls/Riving Knife Knob	Frees pawls and riving knife to independently move up and down	Turn counterclockwise to loosen, clockwise to tighten
Pawls	During ripping, slow or stop kickback by digging into workpiece; when lowered during crosscutting, provide partial barrier to leading edge of blade	For ripping, set pawl level on workpiece surface. <i>For safety reasons set pawls before ripping; See Ripping Set-Up for details and illustrations</i>
Riving Knife	Reduces kickback by keeping kerf open; when lowered during crosscutting, provides partial barrier to leading edge of blade	For ripping, lower to table <i>For safety reasons riving knife must be in line with blade. See Alignment: Riving Knife to Blade</i>

Alignment and Adjustment

The saw and blade must be aligned correctly for two reasons:

- 1) to make cuts accurate
- 2) to prevent binding of the blade and workpiece, which can cause jams, kickbacks, or thrown workpieces.

Alignment and Adjustment Steps

The following adjustments must be made in order before using the saw for the first time. If you miss an adjustment, you must go back, make the missed adjustment, and repeat all steps from that point on.

These adjustments are like fine tuning a piece of equipment. Often, a series of steps must be repeated more than once in order to get the adjustment right.

You will need the tools listed in the Assembly section.

Before you start, make sure the framing square is true.

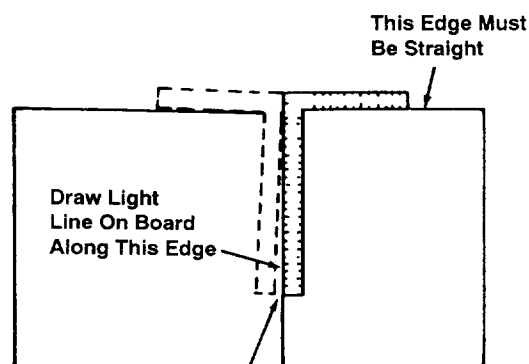


WARNING:

Plugging in saw during alignment can result in severe cuts from contact with spinning blade.

Do not plug in saw at any time during alignment or adjustment. Plug in saw only when it is to be used.

Checking Framing Square



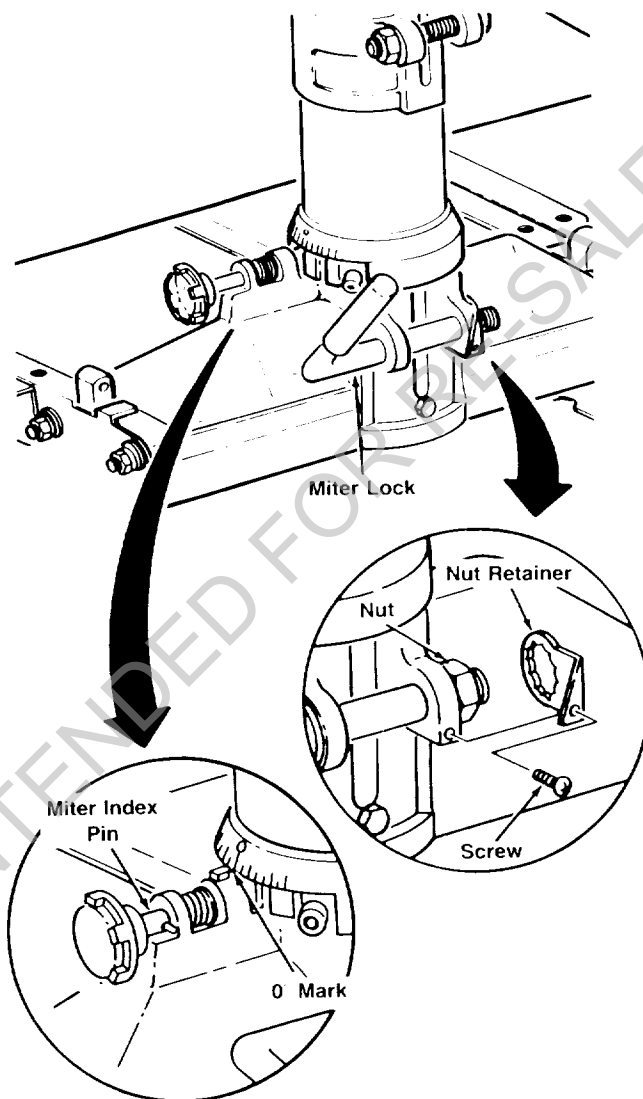
Should Be No Gap Or Overlap Here When Square Is Flipped Over In Dotted Position

Alignment and Adjustment

Miter Lock Adjustment

The miter lock is factory assembled, but it may need adjustment. Follow these steps to see if adjustment is needed and how to make adjustment.

1. Pull out miter index pin and turn 90° to lock out.
2. Unlock miter lock. It should feel loose when unlocked. Move radial arm to right and left, through miter range. It should move freely.
3. Lock miter lock. It should feel tight when locked. Try to move radial arm through miter range. The tube should not rotate with respect to the base when locked.
4. If step 3 is not met, remove screw and nut retainer. Tighten nut as needed. Replace nut retainer and screw. Repeat steps 2, 3, and 4 until lock is adjusted.
5. Turn miter index pin 90° to allow it to engage 0° indexed position. Rotate miter scale to line up 0 with arrow.

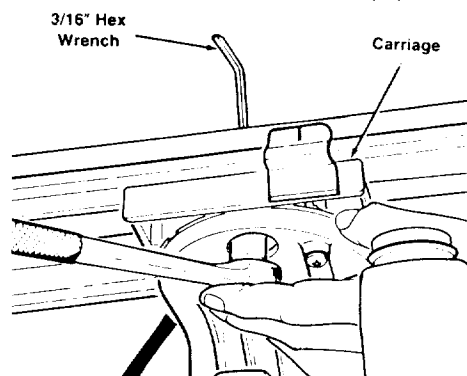
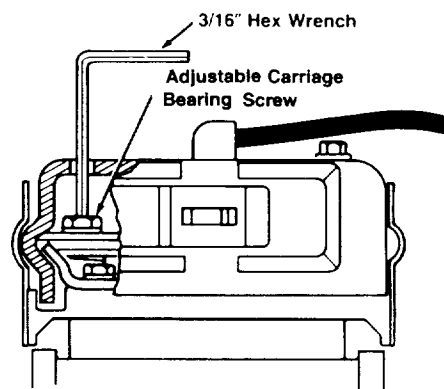
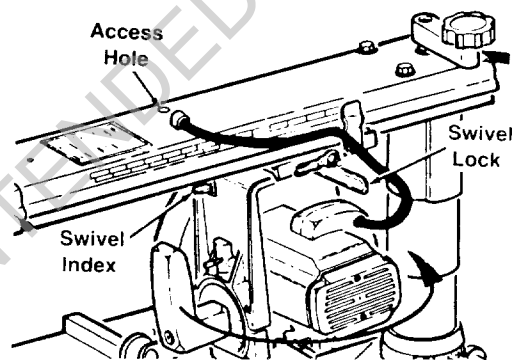
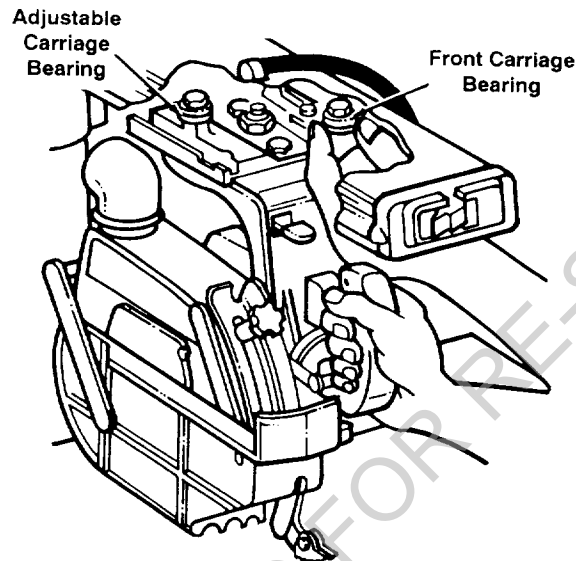


Alignment and Adjustment

Adjusting Carriage Bearings

The goal of this adjustment is to eliminate looseness between the carriage bearings and the radial arm. The blade carriage should roll freely along the entire length of the radial arm, but with some resistance.

1. Unlock rip lock and push blade carriage to rearward position.
2. Grasp front carriage bearing between thumb and index finger. Apply force to bearing and at same time, pull blade carriage forward. If you can stop bearing from turning while carriage is moving, bearing needs adjustment--go to step 3. If you cannot stop bearing from turning while carriage is moving, no adjustment is needed. Go on to Adjusting Column Support.
3. Unlock swivel lock, press and hold swivel index pin to set blade to out-rip position (motor toward rear). Release swivel index pin and lock swivel lock.
4. Push blade carriage to rear. Insert 3/16" hex wrench into access hole in top of radial arm. Look up under radial arm and pull blade carriage forward until hex wrench lines up with and fits into adjustable carriage bearing screw. Lock rip lock.
5. Hold hex wrench in place and use 1/2" socket wrench to loosen nut on underside of carriage just enough to allow adjustable carriage bearing screw to turn. (Nut is accessible through hole in direct line with hex wrench).
6. Turn adjustable carriage bearing screw partial turn to take up looseness.
7. Hold hex wrench in place and tighten nut.
8. Put saw in crosscut position, lock swivel lock, and repeat steps 1 and 2.

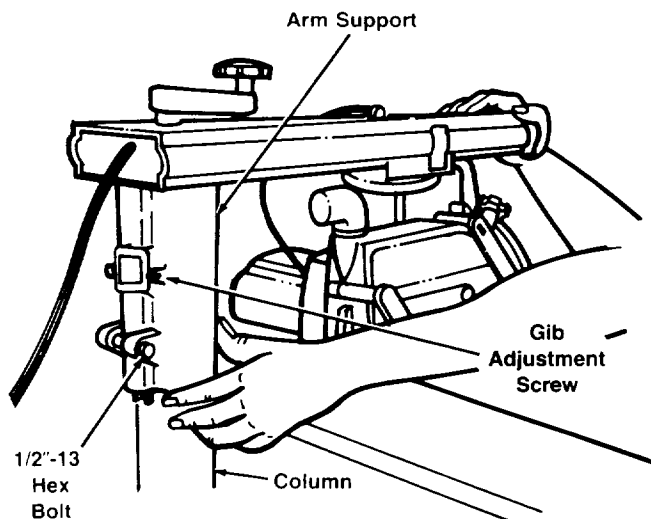
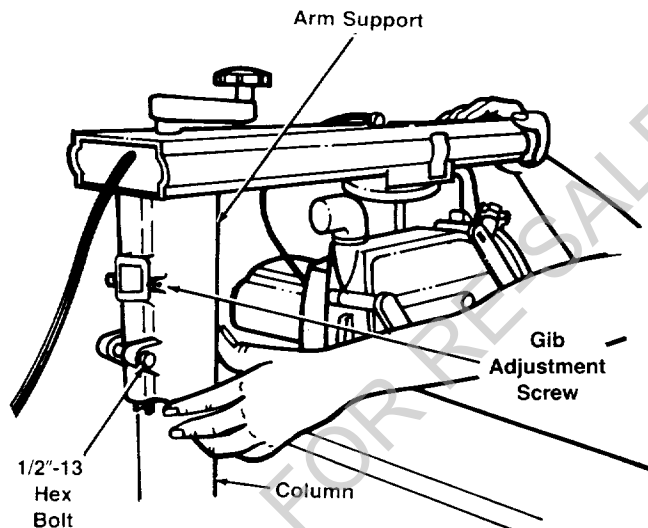


Alignment and Adjustment

Adjusting Column Support

The combined goal of this adjustment is a) to eliminate movement (looseness) between the column and arm support, and b) to make raising and lowering the radial arm a smooth and firm action.

1. Index arm at 0° miter position and lock miter lock.
2. Use elevation handle to raise radial arm to maximum height. If elevation handle is difficult to turn, slightly loosen gib adjustment screw and 1/2-13 hex bolt.
3. Hold end of radial arm with one hand, and place fingers of other hand against column and arm support.
4. Feel for movement between column and arm support as you push radial arm up and down. If there is movement, go to step 5. If there is no movement, go to step 6.
5. If you have not already done so, slightly loosen gib adjustment screw. Slightly tighten 1/2-13 hex bolt. Repeat steps 3 and 4.
6. Use elevation handle to raise and lower radial arm a few turns in each direction. Movement should be smooth but firm. If movement seems difficult, slightly loosen 1/2-13 hex bolt.
7. Position hands as in step 3. Feel for movement between column and arm support as you push radial arm side to side. If there is movement, slightly tighten gib adjustment screw. If there is no movement, go to step 8.
8. Use elevation handle to raise and lower radial arm a few turns to make sure this movement is still smooth and firm. If movement is difficult, slightly loosen gib adjustment screw.
9. Re-check for up and down and side to side movement between column and arm support. Adjustment is finished when radial arm raises and lowers smoothly, and there is no movement between arm support and column.

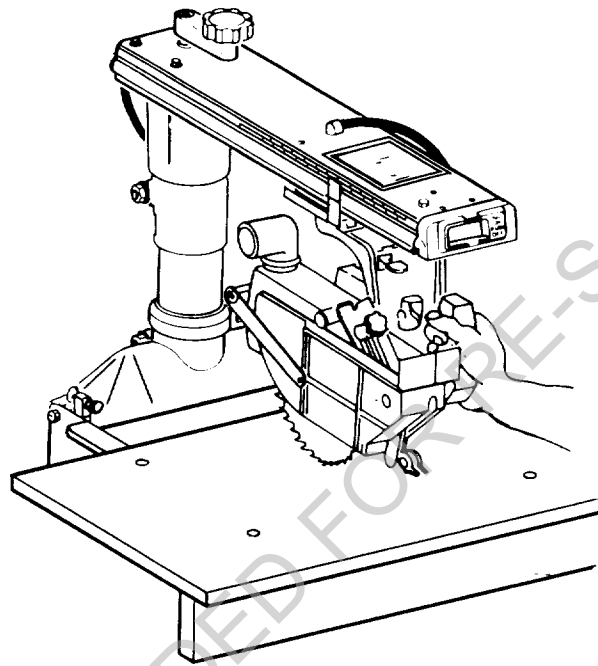


Alignment and Adjustment

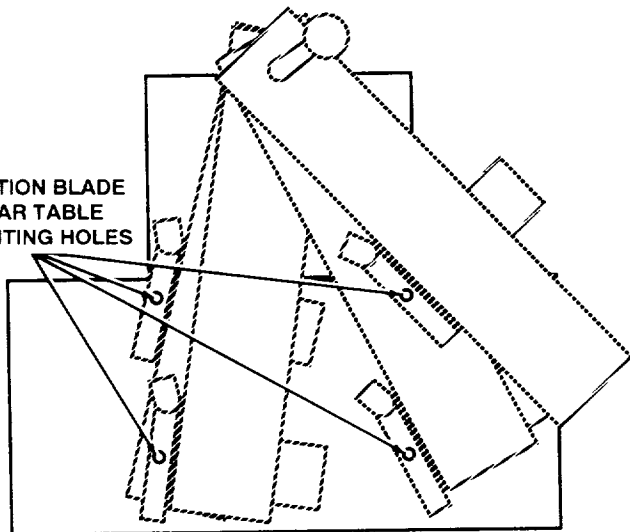
Leveling the Front Table

The goal in leveling the front table is to make the clearance between the blade and table the same at all points.

1. Unlock rip lock and pull blade carriage out to end of radial arm.
2. Find out which point on table is the highest by positioning blade near each of the four mounting holes in table top. It will be necessary to use elevation handle to slowly lower radial arm until blade starts to make contact with the table surface.
3. Start with blade over highest point of table as found in Step 2. Once again use elevation handle to slowly lower radial arm until blade makes contact with table.
4. Adjust table support so blade is in contact with the table surface as much as possible.
5. Tighten table support bolt that is in line with blade. (If blade is over rear table hole, tighten rear table support bolt on that side).
6. Without changing elevation of radial arm, position blade near other hole on same side of table.
7. Adjust table support so blade is in contact with the surface of table as much as possible.
8. Tighten table support bolt that is in line with blade.
9. Repeat steps 4 and 5 for holes on other side of table.
10. Check for equal clearance at all points between blade and table. Re-adjust table supports as needed.



POSITION BLADE
NEAR TABLE
MOUNTING HOLES



Alignment and Adjustment

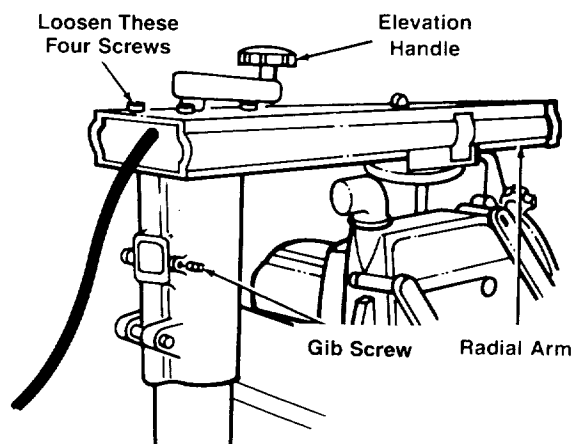
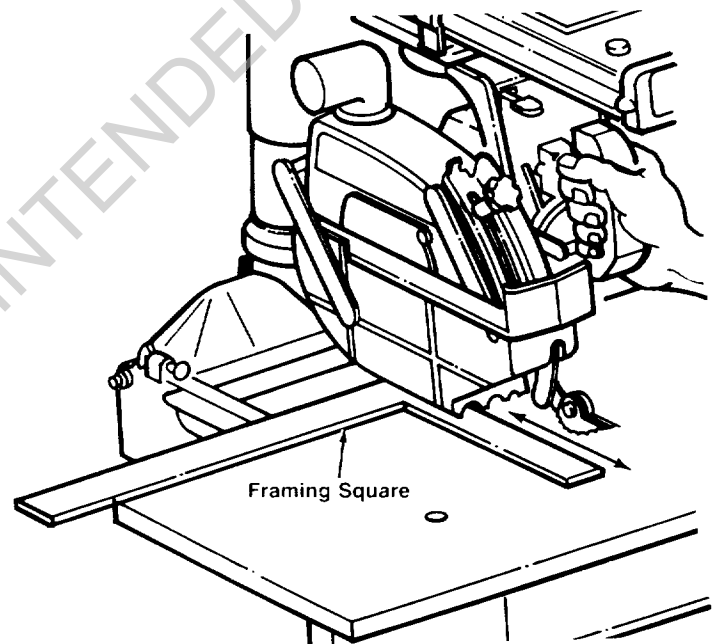
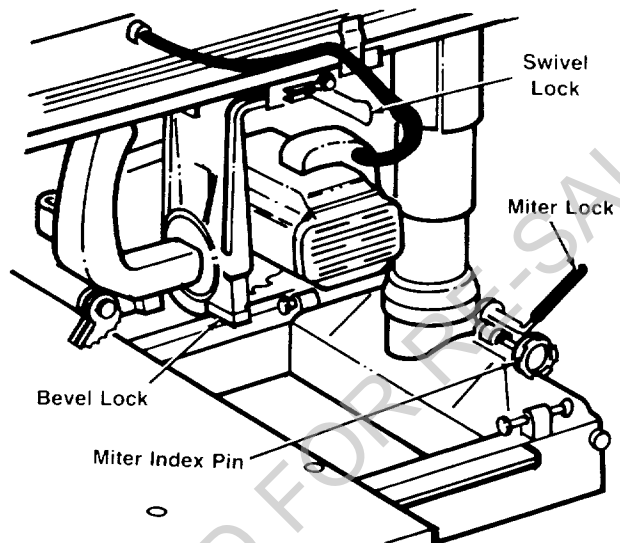
Squaring Blade Crosscut Travel

The goal of this adjustment is to make accurate crosscuts. To do so, the blade must travel along the radial arm, perpendicular to the fence, otherwise, there will be a slight miter angle in all crosscuts.

1. Set radial arm to 0° miter (crosscut) position. Turn miter index pin 90° and release it to index arm. Lock miter lock. Check that bevel and swivel locks are locked.
2. Position blade slightly above rear edge of front table.
3. Place square on front table, so that long side of square is off rear edge of table, and short side of square just touches a blade tooth. Mark this tooth.
4. Move blade carriage all along radial arm to see if marked tooth just touches square at all points. If it does, no adjustment is needed. If tooth moves into or away from square, go to step 5.
5. Slightly loosen four screws on arm near elevation handle. Move arm to make adjustment. Tighten screws. Repeat step 4.
6. If additional movement is necessary or in order to make a more precise adjustment the gibb screws located on the back of the arm support can be adjusted.

If the saw blade tried to move away from the square, slightly loosen the left gibb screw with a 3/16" hex wrench and tighten the right screw maintaining column support adjustment to move the arm to the left.

If the saw blade tried to "walk" on the square, slightly loosen the right gibb screw with a 3/16" hex wrench and tighten the left gibb screw maintaining column support adjustment to move the arm to the right.



Alignment and Adjustment

Squaring Blade to Table

The goal of this adjustment is to make the blade perpendicular to the table so that cuts will be accurate; otherwise all cuts will have a slight bevel angle. The bevel scale will also be adjusted.

1. Position blade carriage so that rear 3/4 of blade is beyond rear edge of front table. Lock rip lock.

2. Raise lower guard.

3. Loosen coverplate screw and rotate coverplate out of way.

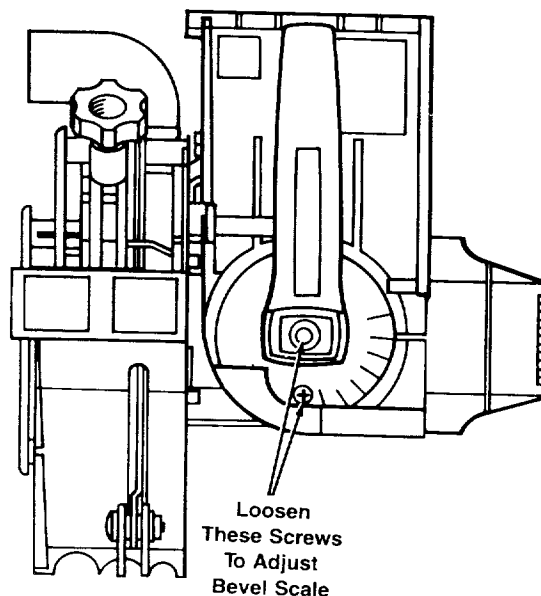
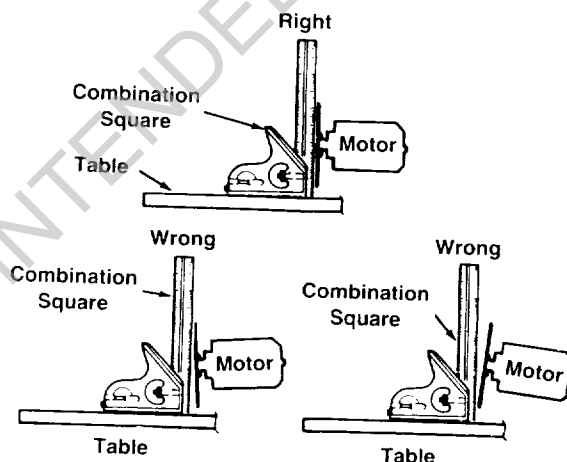
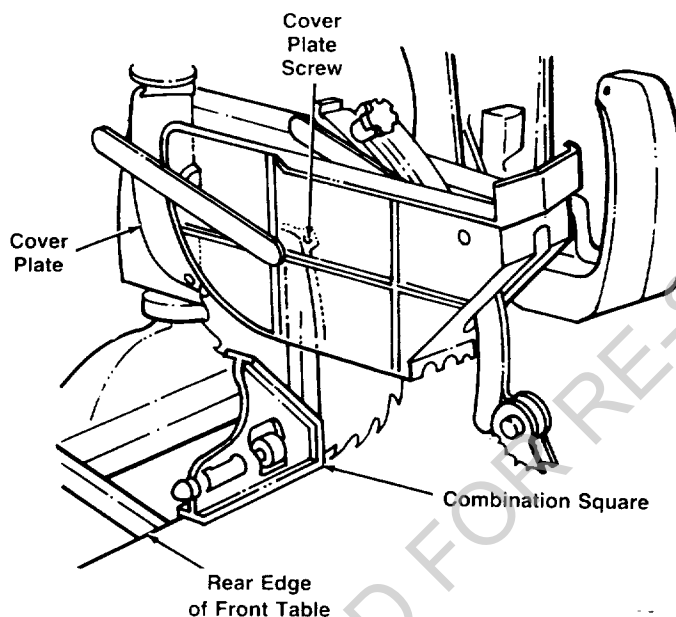
4. Rest combination square on table and against blade so that short edge of square rests on table and long edge rests against blade. Make sure edge of square is against blade surface, not on a tooth.

5. Look to see if space between blade and square stays same at all points. Check different points along blade surface by making quarter turns and looking for gaps each time. If space stays same at all points, no adjustment is needed--go to step 8. If space varies, go to step 6.

6. Use 3/16" hex wrench to loosen socket head screws on either side of saw handle, behind bevel scale. (Make sure bevel lock stays locked). Make adjustment by turning motor. **Note:** *Not all blades are perfectly flat. Find best position for whole blade.* Tighten screws.

7. Repeat steps 4 and 5.

8. Use 3/16" hex wrench to slightly loosen screw in saw handle. Slightly loosen small screw below saw handle. Rotate bevel scale to line up 0 with arrow. Tighten screws.

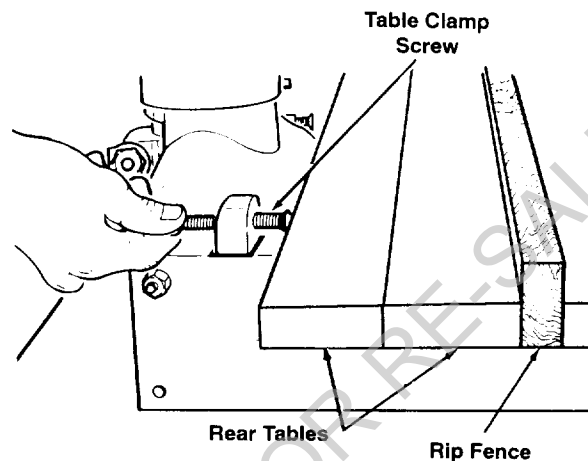


Alignment and Adjustment

Squaring Blade to Fence

The goal in setting the blade perpendicular to the fence is to reduce the risk of kickback when ripping. This adjustment will also reduce splintering of the workpiece and burning of the kerf during ripping and cross-cutting.

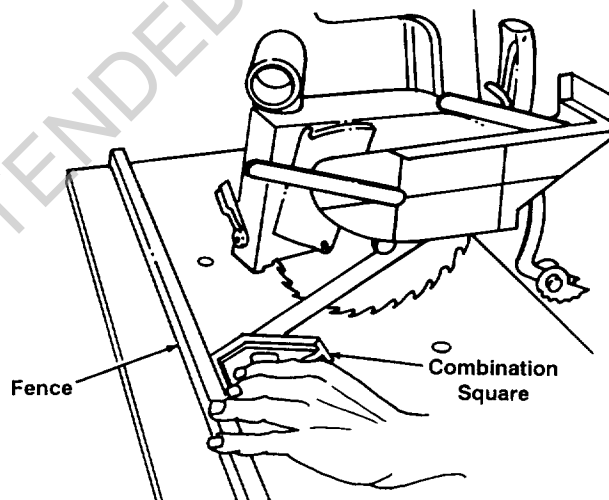
1. Insert rip fence, then the two rear tables, and tighten in place with table clamp screws.



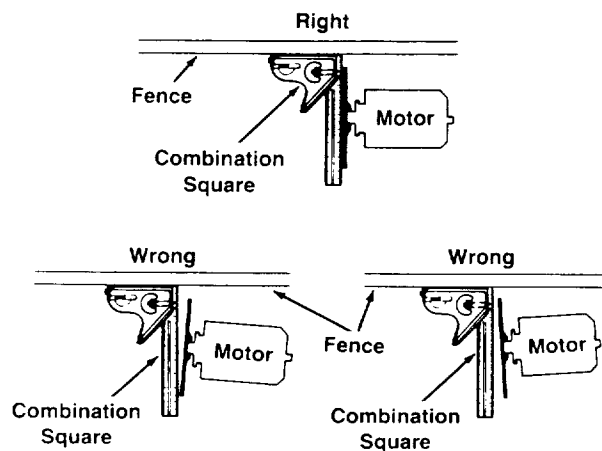
2. Position blade carriage in front of fence and lock rip lock.

3. Raise lower guard.

4. Place combination square so that short edge is against fence and table, and long edge against flat surface of blade, just below blade collar. Make sure edge of square is against blade surface, not on a tooth.



5. Look to see if space between blade and square stays same at all points. Check different points along blade surface by making quarter turns, and looking for gaps each time. If space stays same at all points, no adjustment is needed--go to step 8. If space varies, go to step 6.



Alignment and Adjustment

6. Unlock swivel lock, but do not move swivel index pin. Use 3/16" hex wrench to loosen two adjusting screws under carriage. (There are two access holes to these screws, one on each side of swivel handle). Make adjustment by rotating motor. **Note: Not all blades are perfectly flat. Find best position for whole blade.** Tighten two adjusting screws and lock swivel lock.

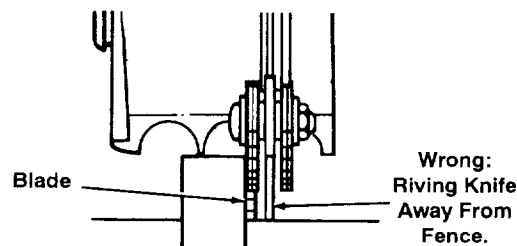
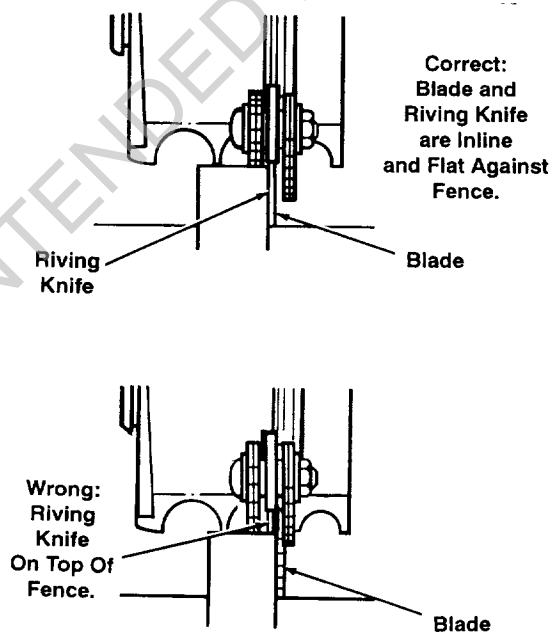
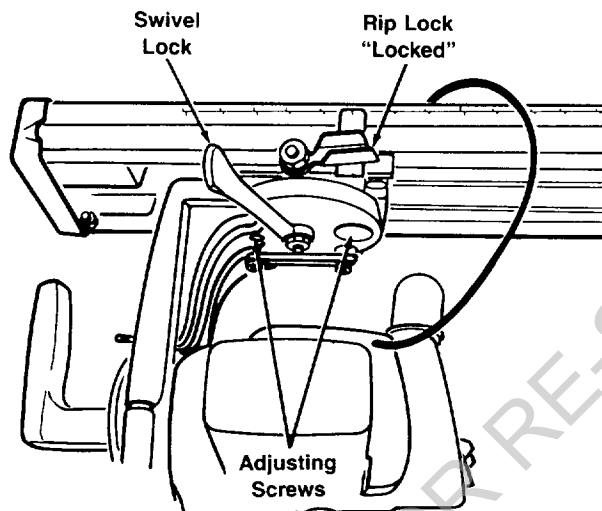
7. Repeat steps 4 and 5.

8. Return coverplate to original position and tighten coverplate screw.

Align Riving Knife to Blade

The goal of this adjustment is to position the riving knife directly in line with the blade. Riving knife alignment is an important safety factor. The riving knife rides in the kerf of the cut workpiece during ripping to keep the two sides of the workpiece from pinching on the blade. Blade pinching is a cause of kick-back.

1. Lock yoke in the in-rip position (blade towards column, motor towards front of arm).
2. Lower arm until blade just clears table.
3. Unlock rip lock while holding up lower plastic guard, move yoke back until blade touches fence. Lock rip lock.
4. Loosen pawls/riving knife knob. Lower riving knife to the table and tighten knob. The riving knife should rest flat against fence.

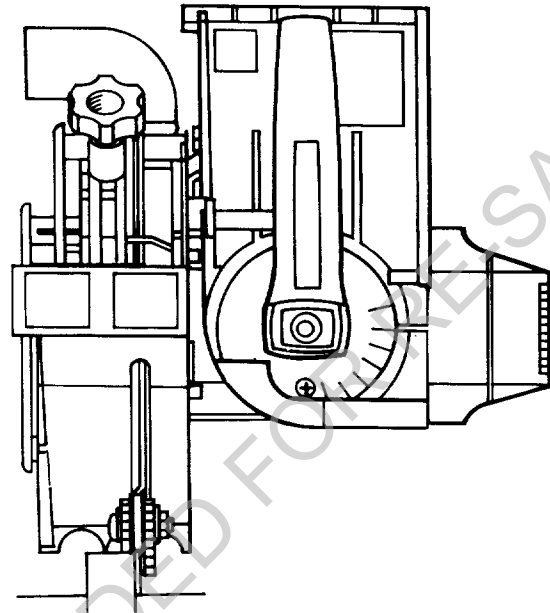


Alignment and Adjustment

5. If adjustment is needed:

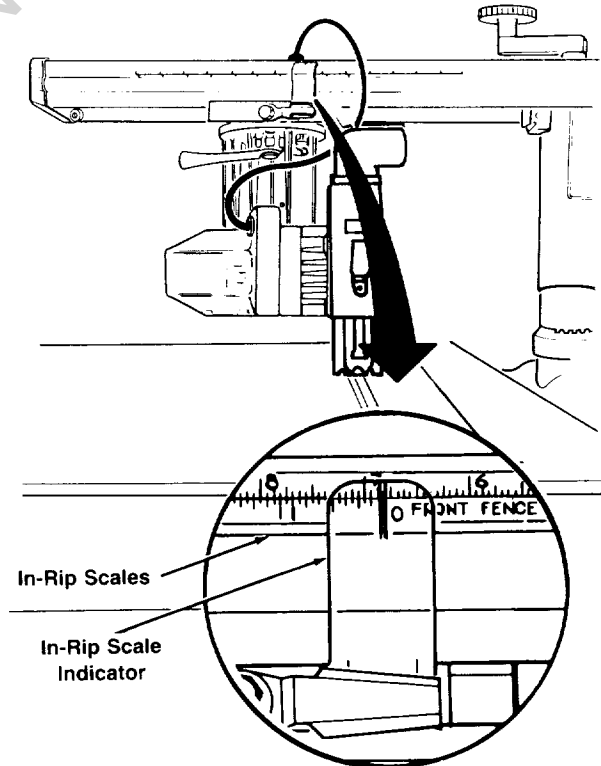
- i) loosen riving knife bracket screw.
- ii) slide riving knife so it rests against fence.
- iii) secure riving knife bracket screw.

6. Raise riving knife and tighten pawls/riving knife knob.



Adjusting In-Rip Scale Indicator

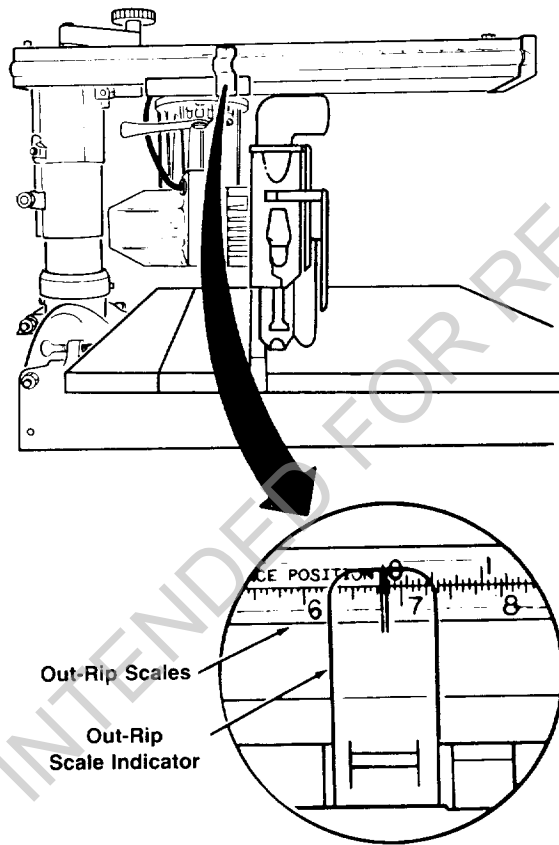
1. With saw in in-rip position and blade against fence, align in-rip scale indicator with 0.



Alignment and Adjustment

Adjusting Out-Rip Scale Indicator

1. Unlock rip lock and pull blade carriage forward. Unlock swivel lock, depress swivel index pin, and set blade carriage in out-rip position (motor towards fence). Lock swivel lock.
2. Push blade carriage back until blade is against fence. Lock rip lock.
3. Align out-rip scale indicator with 0.



The saw is aligned and ready to use for cutting. It is important that you periodically check alignment and adjustment to insure accurate cuts and improve the safety of cutting procedures.

Electrical Connections

Motor Specifications

The double insulated motor used in this saw has the following specifications:

Rated H.P.	1.0
Maximum Developed H.P.	2.5
Voltage	120
Amperes	13
Hertz (cycles)	60
RPM	5100
Arbor Shaft Rotation	Clockwise

Power Supply

⚠ WARNING

Saw is factory wired for 120V operation. Connect to 120V, 15-AMP branch circuit and use 15-AMP time delay fuse or circuit breaker.

Failure to connect in this way could result in injury from shock or fire.

⚠ WARNING

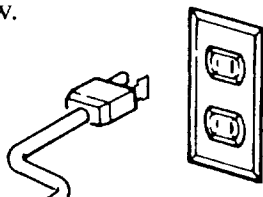
To avoid electric shock or fire, immediately replace worn, cut, or damaged power cord.

If an electrical shock occurs, your reaction to the shock may bring your hands into contact with the blade.

Double Insulated

This tool is double insulated to provide a double thickness of insulation between you and the tool's electrical system. All exposed metal parts are isolated from the internal metal motor components with protecting insulation.

Your unit has a plug that looks like the one shown below.



To reduce the risk of electrical shock, this appliance has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way, if the plug does not fit fully in the outlet, reverse plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.

⚠ WARNING

Double insulation does not take the place of normal safety precautions when operating this tool.

Use only identical replacement parts when service is required. This tool is intended for residential use only.

Extension Cords

The use of any extension cord will cause some loss of power. Replace damaged or worn cords immediately.

The following table shows the correct size cord to use. If in doubt, use the next heavier gauge. An undersized cord will cause a drop in line voltage, resulting in loss of power and overheating. **Note:** *The smaller the gauge number, the heavier the cord.*

Wire Gauge Chart (AWG #) for 120 Volt Lines

Cord Length (feet)	AWG #
0-25	No. 14
26-50	No. 12

For circuits that are farther away from electrical circuit box, the wire size must be increased proportionately in order to deliver ample voltage to the saw motor.

Crosscutting

Crosscutting Defined

Crosscutting is cutting a workpiece to length. The workpiece is held firmly against the fence, and the blade is pulled through the workpiece to make the cut. Straight, bevel, miter, and compound cuts can be made.

Crosscutting Safety

The hazards associated with crosscutting include: exposed blade teeth, rolling carriage, and thrown workpiece. This section explains these hazards and tells how to avoid them or reduce the risk of their happening.

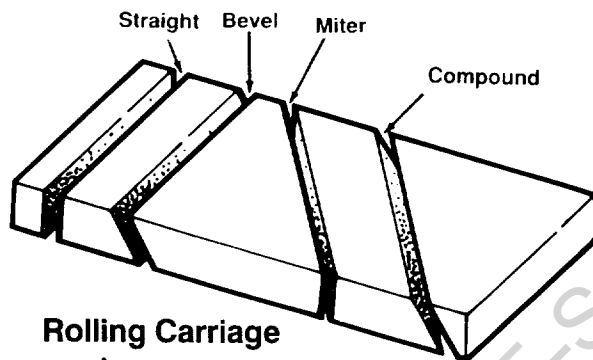
Read this section before making any type of crosscut. Follow these steps every time you make a crosscut.

Exposed Blade Teeth

⚠ WARNING

During crosscutting, blade teeth can be exposed. To reduce risk of having fingers, hand or arm cut off:

- ✓ Correctly use guard.
- ✓ Lower pawls or riving knife to clear fence or workpiece, whichever is higher, by 1/8". Lowered pawls or riving knife act as partial barrier to front of blade.
- ✓ Keep hands away from blade and out of blade path. Keep hand holding down workpiece at least 8" from blade.
- ✓ Blade can come off table edge beyond 30° left miter position. Use right miter position whenever possible.
- ✓ Do not cut freehand. You will not be able to control workpiece.
- ✓ If blade jams, turn off saw, remove yellow key, then free blade.



Rolling Carriage

⚠ WARNING

When saw is turned on, blade can suddenly come forward. To reduce risk of this happening:

- ✓ Keep one hand on saw handle when turning saw on.
- ✓ If needed, put shims under front frame to make sure saw slants slightly to rear.

Thrown Workpiece

⚠ CAUTION

Workpiece could be picked up by spinning blade and thrown. You might be hit by thrown workpiece. To reduce risk of thrown workpiece:

- ✓ Make sure installed fence is at least half as high as the workpiece, and never less than 3/4".
- ✓ Start and finish cut with blade in rear-most position, behind fence.
- ✓ Firmly hold workpiece flat on table and up against fence. Cut only one workpiece at a time.
- ✓ Pull blade through workpiece only far enough to complete cut, and never more than half the diameter of blade.
- ✓ Do not touch or move workpieces until blade has stopped spinning.
- ✓ Use length stop only on end of workpiece which is held down.
- ✓ Use table extensions to support workpieces that extend beyond table.

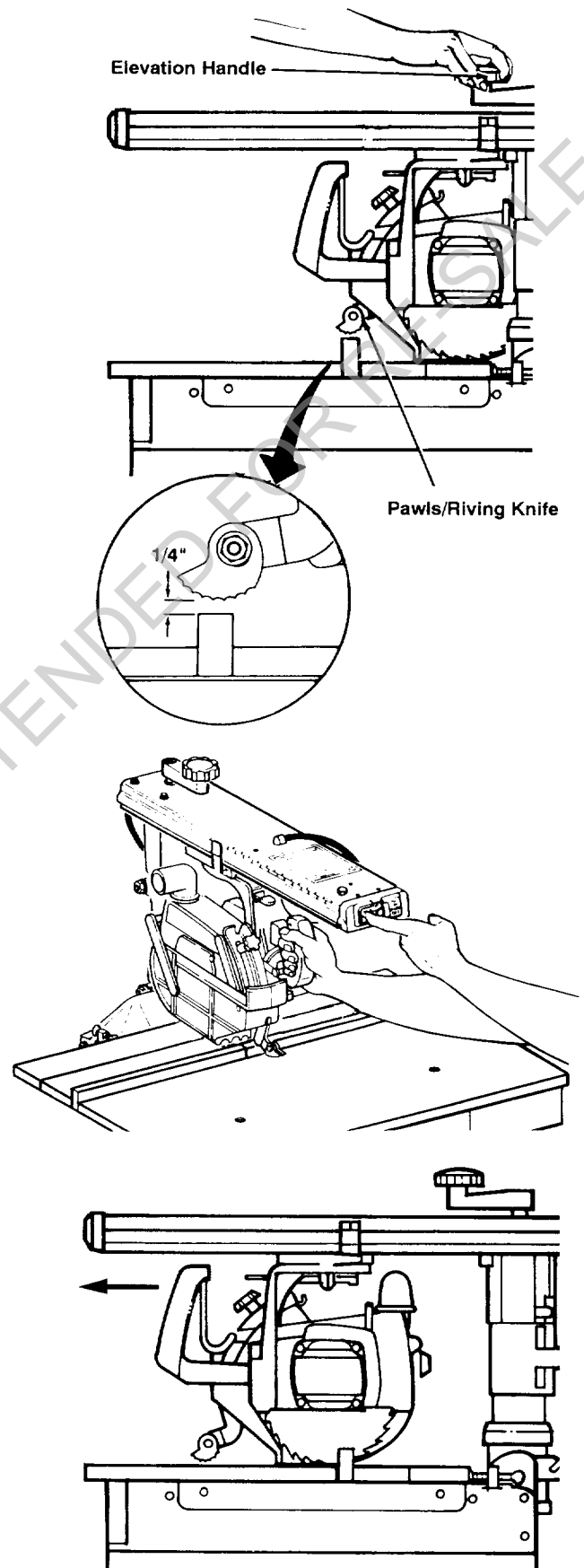
Crosscutting

Kerfs

A kerf or shallow cut is needed in the table and fence to serve as a path for the blade and to ensure that the blade cuts all the way through the workpiece. A kerf is needed for each different cutting path.

Follow these steps to make approximately 1/16" deep kerf:

1. Check that saw is unplugged, switch is "off" and yellow key is out.
2. Put fence between front table and spacer board. Tighten table clamps.
3. Set desired bevel angle. Move arm to desired miter position. Lock bevel, miter and swivel locks.
4. Unlock rip lock and push blade carriage to rearmost position, behind fence.
5. Turn elevation handle clockwise to lower radial arm until blade just clears table.
6. Lower pawls to clear fence by 1/4".
7. Plug saw in.
8. Put yellow key in switch.
9. Grasp and hold onto saw handle, then turn saw on.
10. Slowly turn elevation handle clockwise to lower radial arm until blade touches table, then continue to lower by one half turn of elevation handle.
11. Squeeze handle trigger to fully raise clear plastic guard so it will clear fence. Hold hand and arm in straight line with saw handle and pull blade through fence and across table as far as it will go.
12. Push blade carriage to rearmost position, behind fence, and turn saw off. Continue to hold saw handle until blade stops spinning.
13. Remove yellow key and unplug saw.



Crosscutting

Making Crosscuts

Follow these steps to make crosscuts.

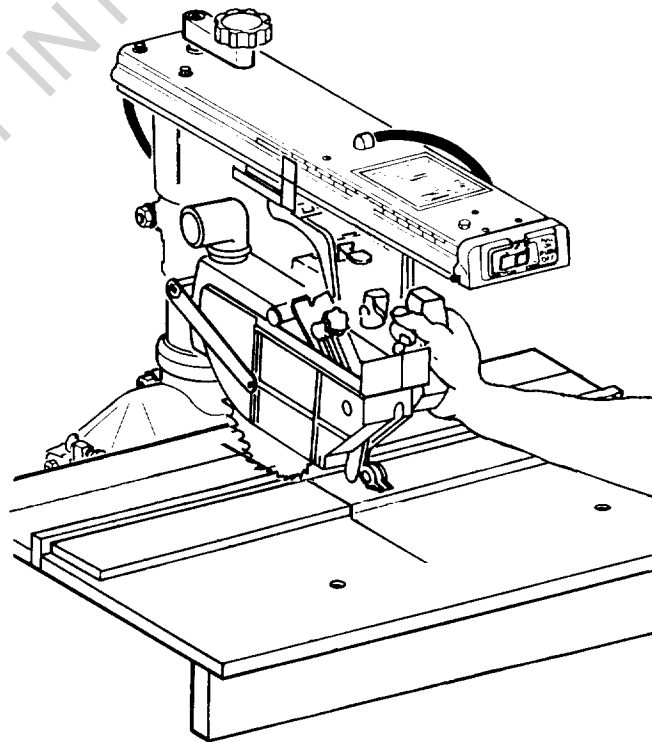
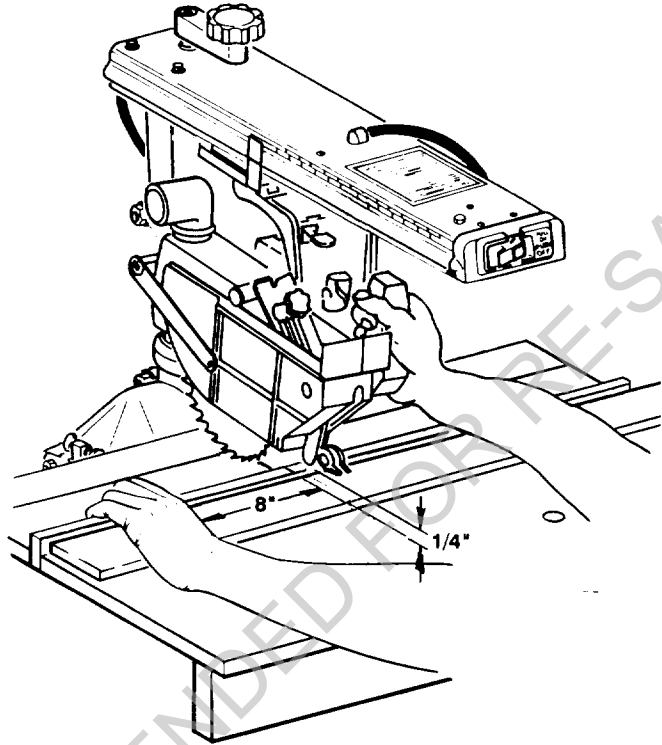
1. Prepare table:
 - put fence in front position
 - tighten table clamps
2. Prepare blade:
 - lock blade in crosscut position
 - lock radial arm at desired miter angle
 - lock motor at desired bevel angle*
 - unlock rip lock and push blade to rearmost position, behind fence
 - lower blade into kerf* but not touching kerf bottom (blade should move freely).

** raise clear plastic guard before changing bevel angle and when lowering beveled blade, otherwise it may jam into table.*

3. Position workpiece against fence, and lower pawls or riving knife to clear fence or workpiece, whichever is higher, by 1/4".
4. Grasp saw handle, then turn saw on. **Keep one hand on saw handle through step 7.**

5. Hold workpiece down and against fence. Keep hand at least 8" away from blade.
6. Squeeze handle trigger to fully raise clear plastic guard so it will clear fence and workpiece. Pull blade through workpiece but only far enough to complete cut, and never more than half the diameter of blade.

7. Push blade carriage to rearmost position, behind fence, and turn saw off. Keep hand on saw handle until blade stops spinning.



Crosscutting

Repetitive Crosscutting

Repetitive crosscutting is the repeated and continuous cutting of many pieces of lumber to the same length. Carriage and length stops can help make this type of crosscutting more efficient.

A carriage stop defines the distance needed to pull the blade through to complete each cut. This will prevent pulling the blade through more than the recommended distance.

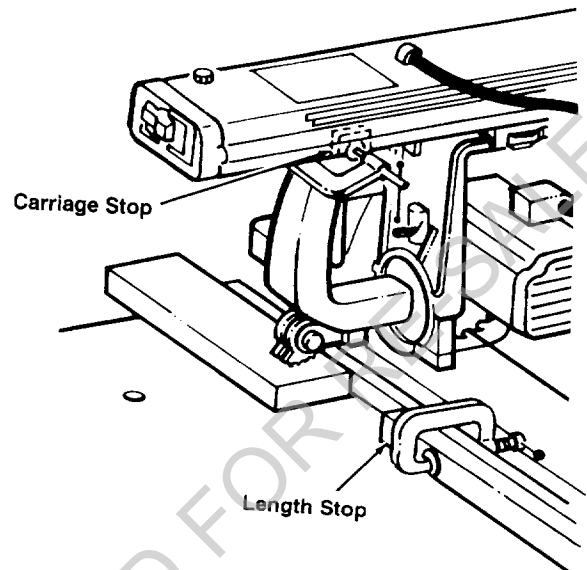
To make a carriage stop use 1x1 lumber:

- i) cut a piece 2" long
- ii) clamp a piece on right side of radial arm, so blade carriage stops at distance needed to complete cut
- iii) check that clamps does not interfere with hand grip on saw handle.

A length stop defines the cut length and ensures that all pieces will be cut to the same size. Clamp a piece of 1x1 lumber on the fence to define the cut length. **Use a length stop only on the end of the workpiece which is held down.**

Crosscutting Hints

1. Make several fences, so each will have only a few kerfs (See Cutting Aides). Too many kerfs will weaken a fence.
2. Keep table clean of chips and sawdust.
3. Use sharp blades, and use the right blade for each job.
4. When making miter or bevel cuts, use extra force to hold workpiece down because it tends to move during these types of cuts.
5. When cutting hard woods, like oak, or making compound cuts, keep arm holding saw handle rigid and pull blade through slowly.
6. To keep cut line accurate, periodically check blade alignment.
7. Do not cut severely warped or crooked workpieces.



Ripping

Ripping Defined

Ripping is changing the width of a workpiece by cutting along its length. The workpiece is fed into the blade, which has been rotated to a fixed position, parallel to the fence and a set distance from the fence. A solid fence (no kerfs) serves as a guide for the workpiece.

Place the fence in the front, middle, or rear position. Generally, the front position is for narrower workpieces, the rear for wider workpieces.

In-Rip and Out-Rip Positions

In-rip and out-rip refer to blade position.

In-rip: the blade is toward the fence, and the motor is toward the table front. In-rip is recommended because this position allows better visibility of the workpiece and your hands.

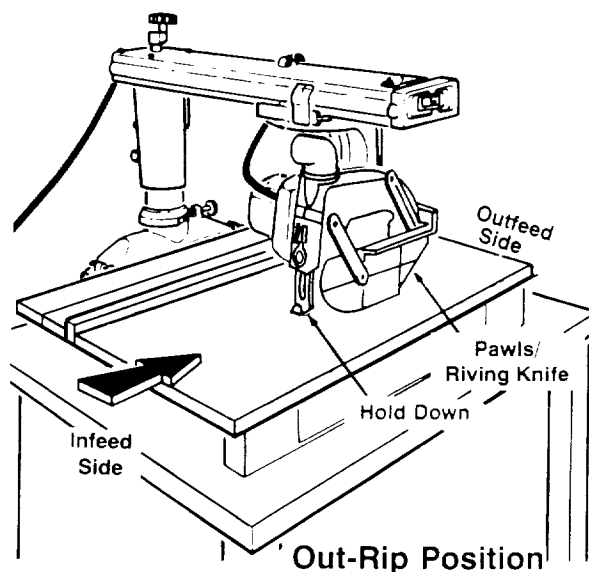
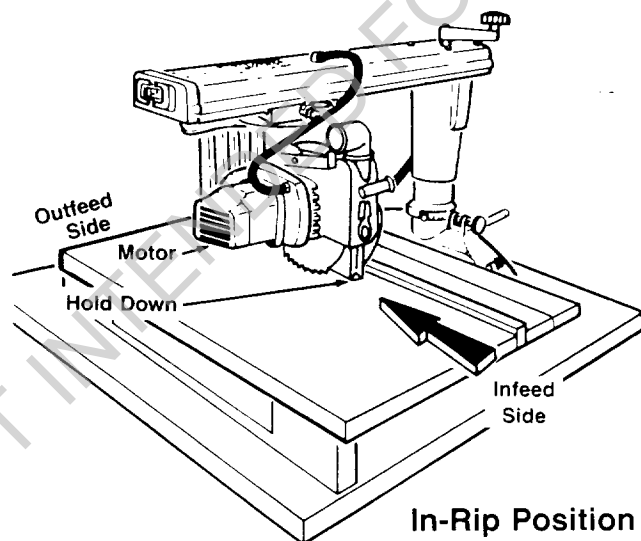
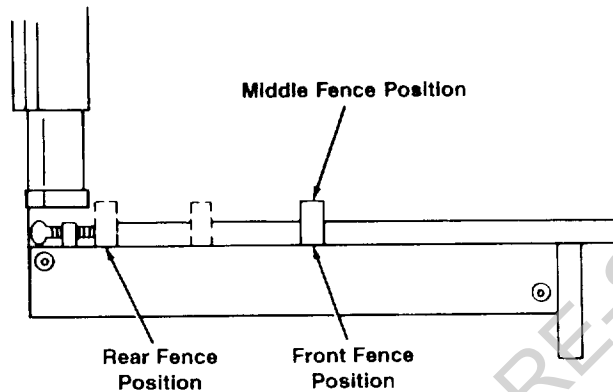
Out-rip: the blade is toward the table front, and the motor is toward the fence. Use out-rip for cutting workpieces wider than 13".

Infeed and Outfeed Directions

Infeed and outfeed refer to sides of the blade.

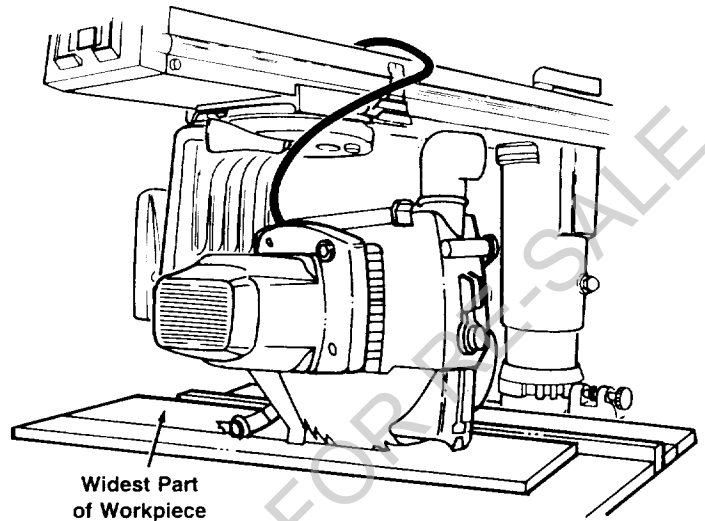
Infeed: the side of the blade where the guard hold down is. **Always start a rip cut at the infeed side and push the workpiece through to the outfeed side.**

Outfeed: the side of the blade where the pawls and riving knife are. **Never start a rip cut at the outfeed side. This is wrong way feed. Never put hands on the outfeed side of the blade when ripping because they can be pulled back into the spinning blade.**



Workpiece Positioning

Always set up so that the wider part of the workpiece is between the blade and fence. For example, if you want to rip 1" off a 10" wide workpiece, set the saw blade 9" from the fence. This gives you greater clearance for push sticks, and allows better stability for feeding the workpiece.



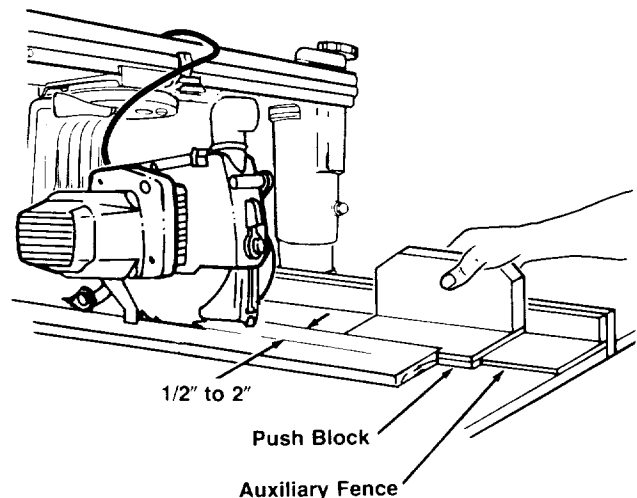
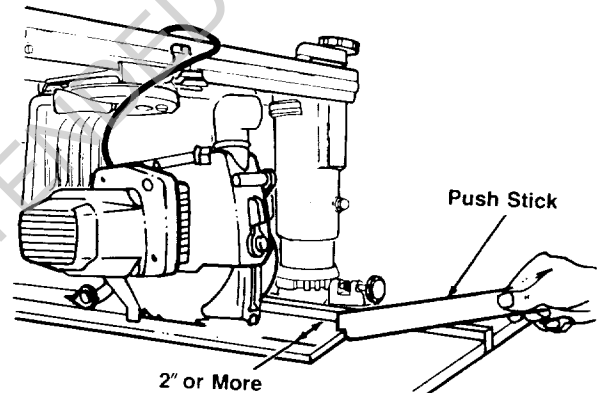
Push Sticks and Push Blocks

Use push sticks and push blocks instead of the hands to push the workpiece through to complete cuts. They help keep hands away from the blade. A push block is used with an auxiliary fence. (see Cutting Aides).

Use a **push block and auxiliary fence** when the blade is set 1/2 to 2" from the fence.

Use a **push stick** when the blade is set 2" or more from the fence.

Do not set the blade closer than 1/2" to the fence. The radial saw is the wrong tool for such a narrow cut. A band saw would be more appropriate for this type of cut.



Ripping Safety

The hazards associated with ripping include: outfeed zone hazard, kickback, and wrong way feed. This section explains these hazards and tells how to avoid them or reduce the risk of their happening.

Read this section before making any type of rip cut. Follow these steps every time you make a rip cut.

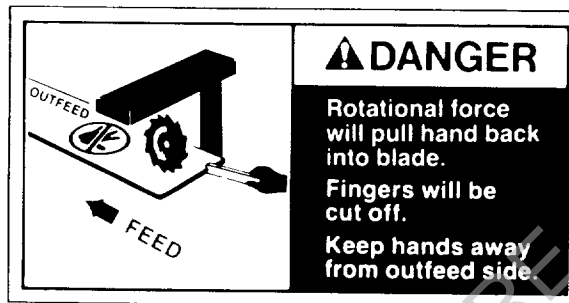
Ripping

Outfeed Zone Hazard

DANGER

Rotational force of blade can pull hands and fingers back into blade. Touching, holding, or pulling on outfeed side of workpiece while blade is still spinning will result in fingers, hand or arm being cut off. To reduce risk of outfeed hazard:

- ✓ Set pawls and riving knife; they act as partial barrier to outfeed side.
- ✓ Start and finish cut from **infeed** side.
- ✓ Keep both hands on infeed side.
- ✓ Keep hands away from outfeed side.
- ✓ Push workpiece through to complete cut. Do not reach around to pull it.
- ✓ If blade jams, turn saw off, remove yellow key, then free blade.



Kickback

Kickback is the uncontrolled propelling of the workpiece back toward the user.

WARNING

Kickback can happen when blade is pinched or bound by workpiece. Pinching or binding can happen when:

- pawls and riving knife are not used or not set correctly
- riving knife is not aligned with blade
- blade is not parallel to fence
- workpiece is twisted or warped and rocks on table top
- pressure is put on outfeed side of workpiece
- workpiece is released before being pushed past pawls
- user touches or tries to pull workpiece through outfeed side before blade has stopped spinning.



Ripping

To reduce risk of kickback:

- ✓ Set pawls and riving knife according to ripping set-up procedure. Correctly set riving knife is more likely to prevent workpiece from binding or pinching blade; correctly set pawls are more likely to grab into workpiece to stop or slow kickback if one happens.
- ✓ Check that riving knife is in line with blade (see Alignment: Riving Knife to Blade).
- ✓ Cut only straight workpieces so surface will lie flat on table and edge will stay tight against fence. If you must cut an irregular workpiece, attach a straight edge (see Cutting Aides).
- ✓ Push workpiece through from infeed to outfeed side until it is completely past pawls.
- ✓ Use featherboard (see Cutting Aides).
- ✓ Keep hands away from outfeed side.
- ✓ If blade jams, turn saw off, remove yellow key, then free blade.
- ✓ When cutting composition materials, or other materials with one smooth and one rough side, put rough side up so pawls will be more likely to grab.

Wrong Way Feed

Wrong way feed is ripping by feeding the workpiece into the outfeed side of the blade.

WARNING

Rotational force of blade will pull workpiece through violently if workpiece is fed in same direction as blade rotates (wrong way feed). Hands and fingers could be pulled along with workpiece into spinning blade before you can let go or pull back. Fingers, hand or arm could be cut off. Propelled workpiece could hit bystander.

To eliminate risk of wrong way feed:

- ✓ Feed workpiece against blade rotation.
- ✓ Set pawls and riving knife; they act as partial barrier to outfeed side.



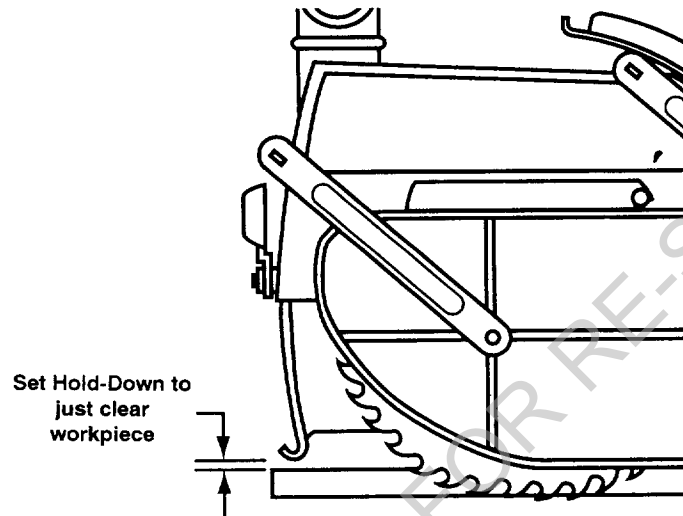
Ripping

Hold Down Function

The hold down must be set correctly during ripping to act as barrier against the infeed side of the blade, to help keep the workpiece flat on the table, and to deflect workpiece chips. It must be lowered to just clear the workpiece.

The hold down must be re-set each time a different thickness workpiece is cut.

Follow the Ripping Set-Up Procedure to correctly set the hold down.



Pawls and Riving Knife Function

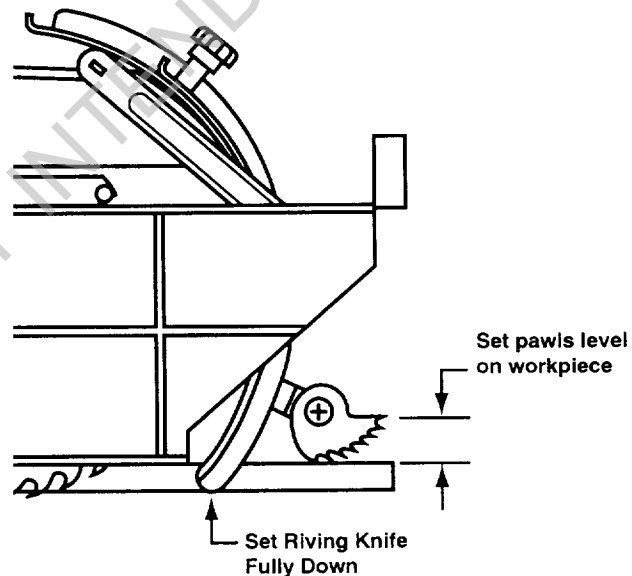
The pawls and riving knife must be set correctly during ripping to reduce the risk of kickback, to prevent wrong way feed, and to act as a barrier to the hazardous outfeed side of the blade.

The riving knife rests on the table. It keeps the workpiece kerf open. This reduces the chances that the cut workpiece will spring closed and pinch the blade. Pinching the blade is a cause of kickback.

The pawls rest level on the upper surface of the workpiece. During cutting they allow the workpiece to pass freely from the infeed to the outfeed side, but help stop the kickback motion from outfeed to infeed side by grabbing into the workpiece surface.

The pawls must be re-set each time a different thickness workpiece is cut.

Follow the Ripping Set-Up Procedure to correctly set the pawls and riving knife.



Ripping

Ripping Set-up Procedure

Follow these steps **before** ripping.

These steps must be repeated each time a different thickness workpiece is ripped. A kerf must be made for each different width cut. Also see the special notes for bevel set-up that follow this section.

1. Prepare table:

- insert solid (no kerfs) fence (**Note:** Use auxiliary fence when blade is set 1/2 to 2" from fence (See Cutting Aides)
- tighten table clamps.

2. Prepare blade:

- lock radial arm at 0° miter
- lock blade in in-rip position*
- lower blade to just clear table
- lock blade carriage desired distance from fence. **Note:** Make sure wider part of workpiece will be between blade and fence.

* use out-rip position for rips 12" or wider.

3. Make kerf:

- turn saw on
- lower blade about 1/16" into table
- turn saw off and remove yellow key.

4. Place workpiece parallel to and up against blade. **** Note:** Workpiece will be between blade and table front.

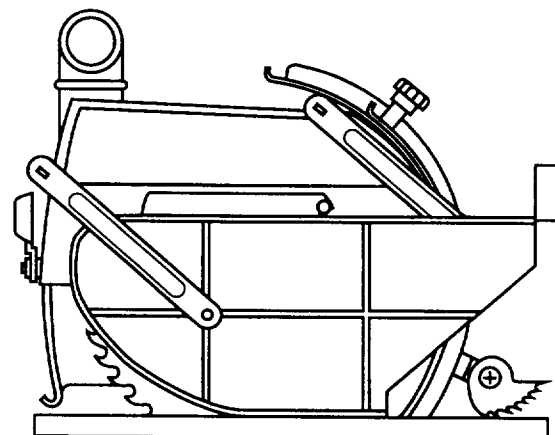
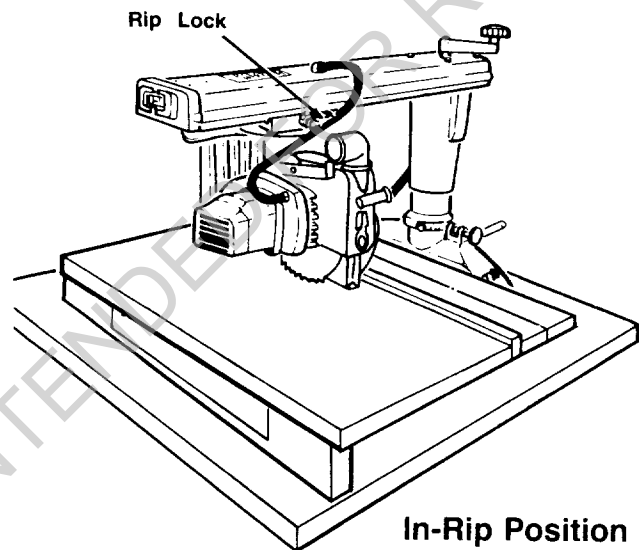
5. Lower hold down** to workpiece, then raise slightly so it just clears top surface of workpiece. Lock in place.

6. Lower riving knife to table and check that it is aligned with the blade. **Lower** pawls to workpiece surface. **** Move** workpiece toward outfeed side until one set of pawls rests level on workpiece surface. Lock in place.

** bevel set-up: see special notes, next page

WARNING

If workpiece is pushed along fence with kerfs, workpiece could get caught on kerf, pinch blade and cause kickback. Do not use cross-cutting fence for ripping.



Setting Guard For Rip Cut

Ripping

7. Remove workpiece from table.
8. Ready push stick or push block.
9. Set up table extension(s) and support their outer ends. **Do not use another person to support workpieces because this can cause kickback and it exposes helper to potential hazards at outfeed side.**

Special Notes for Bevel Set-Up

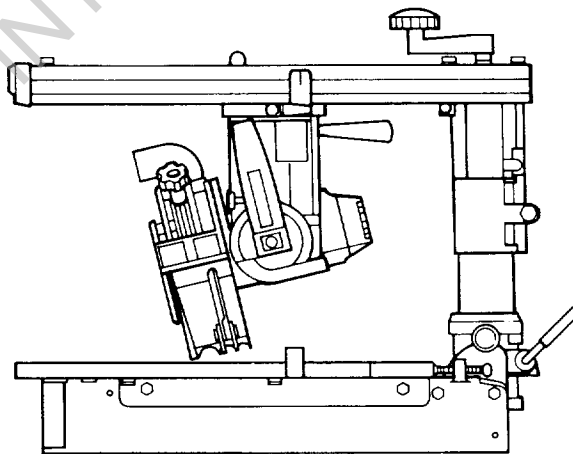
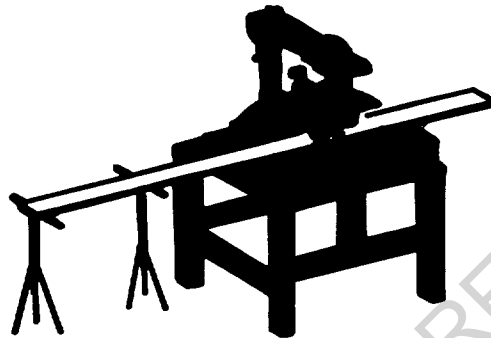
⚠ CAUTION

Bevel ripping creates unique problems of visibility and feeding. Before cutting, check the set-up using both in-rip and out-rip. Use the position that gives the best combination of workpiece visibility and push stick clearance.

⚠ WARNING

Bevel the edge that is not against the fence.

1. When setting bevel angle, raise radial arm to allow sufficient clearance for blade and guard to not jam in to the table.
2. When blade is beveled, manually raise clear plastic guard before lowering blade to table or kerf, otherwise it may jam in to the table.
3. To set hold down, place workpiece directly under guard nose, rather than parallel to blade.
4. Lower riving knife to table and check that it is aligned with the blade.
5. To set pawls, place workpiece directly under set of pawls closest to table. This set of pawls will keep contact with workpiece surface. Lock in place.
6. Before making cut pass workpiece under lower guard to insure it will pass smoothly under the guard.



Ripping

Making Rip Cuts

Follow these steps to make in-rip cuts. For out-rip cuts, reverse hand functions; that is, put right hand on table and use left hand to support and push workpiece.

1. Follow ripping set-up procedure.
2. Insert yellow key and turn saw on.
3. Stand at infeed side and out of line of workpiece, in case of kickback. **Start and finish cut from infeed side.**
4. Put workpiece on table, in front of hold down, and tight against fence. To hold workpiece in position, put left hand on table, at least 8" in front of hold down, and lightly press fingers against workpiece. Support workpiece with table extension or right hand.

5. With right hand, push workpiece under hold down and into blade. Keep left hand fixed on table, applying slight pressure to keep workpiece against fence.

6. Use right hand to continue to apply feed pressure to part of workpiece close to fence. Keep hand at least 8" in front of hold down.

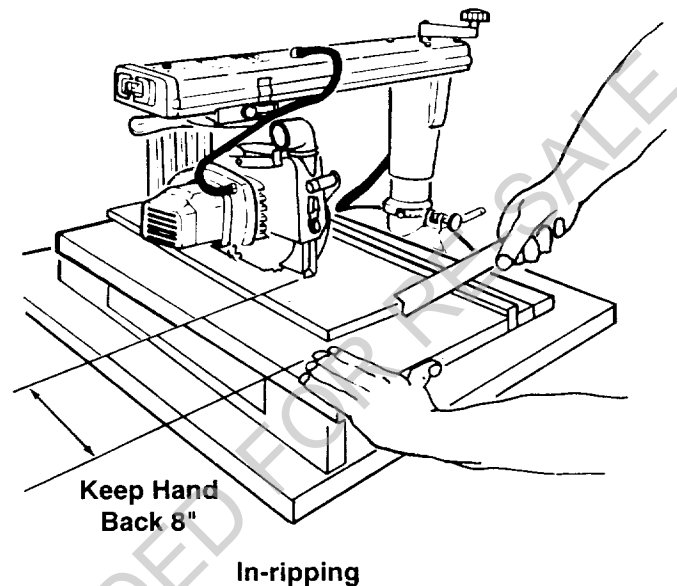
Note: Most workpieces will automatically raise clear plastic guard as they pass from infeed to outfeed side. Unusually tall and narrow workpieces may not raise clear guard. When this happens, push guard tab to raise guard, then release tab when guard rests on top of workpiece surface.

⚠ CAUTION

Pushing guard tab means using only one hand to control workpiece. While pushing tab, use extra care to guide workpiece and to keep hand at least 8" in front of hold down. Release tab as soon as clear guard rests on workpiece.

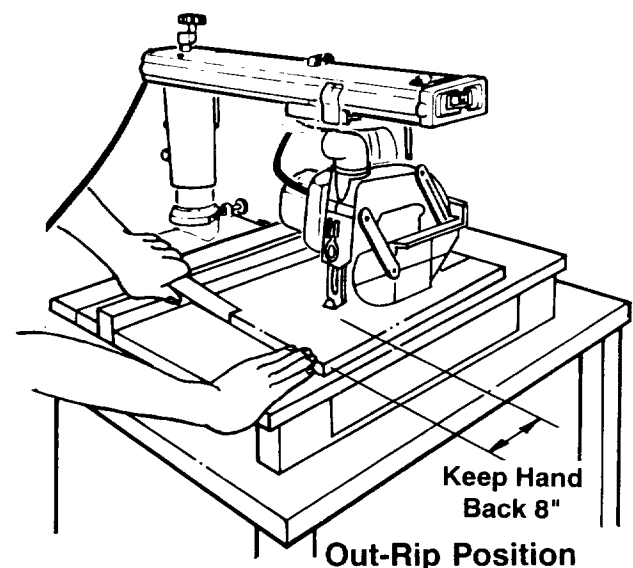
7. When end of workpiece gets to table, use push stick or block, instead of hand, on part of workpiece between blade and fence to push until workpiece is completely past pawls.

8. Turn saw off and **wait for blade to stop spinning before touching workpiece.**



⚠ CAUTION

For large workpieces use a feather-board in place of your hand on the table. It gives better support. (See cutting aides)



Ripping

Ripping Checklist

Refer to the following checklist before making rip kerfs or ripping. It will remind you of things to do to make your cutting safer.

Ripping Checklist

1. Prevent accidental start-up. Saw unplugged, switch "off", and yellow key out until ready to make actual cut.
2. Safety goggles on.
3. Blade sharp and correctly installed.
4. Fence solid (no kerfs), and secured in slot. Workpiece can snag on a fence kerf.
5. Installed fence at least half as high as workpiece, and never less than 3/4".
6. Follow ripping set-up procedure.
7. Pawls set to rest level on workpiece.
8. Spreader in line with blade and set to ride in workpiece kerf.
9. Hold down lowered to just clear workpiece.
10. Swivel, rip, miter, and bevel locks locked; table clamps tightened.
11. Both hands always on infeed side.
12. Use push block and auxiliary fence when space between blade and fence is 1/2 to 2". Do not make rip cuts when space between blade and fence is narrower than 1/2".
13. Use push stick when space between blade and fence is 2" or more.
14. Push until workpiece is past pawls and spreader.
15. Use table supports for long workpieces.
16. Use featherboard.
17. Saw off and blade stopped spinning before reaching for cut workpiece.

Ripping Hints

1. To extend the life of the table top, make an additional top out of 1/4" plywood. Clamp or nail to original table top, section by section. If you use nails, nail in four corners where blade cannot contact nails.
2. Keep table clean of chips and sawdust.
3. Use sharp blades.
4. Use the right blade for each job.
5. For workpiece with one smooth and one rough surface, cut with rough surface up so pawls will grab better.
6. To keep cut line accurate, periodically check blade alignment.
7. If you must cut an irregular workpiece, attach a straight edge. See Cutting Aids.

Cutting Aids

Before cutting any wood on your saw, study all of the Crosscutting and Ripping Instructions found on pages 41 through 53. As you learn new radial arm saw wood-working techniques, you'll see that many types of cuts need different support and feeding devices, known as jigs or fixtures. They can help you make cuts more accurately. By helping to steady the workpiece and keep you away from the blade, they can help you safely use your saw for certain cuts.

Many people custom build their own jigs and fixtures. Jigs and fixtures are often designed for a particular cut.

You can use your radial saw to easily make many jigs and fixtures. To get you started, we've included instructions for some simple ones. After you have made a few practice cuts, make up these jigs before starting any projects. Make the push stick first.

Push Sticks

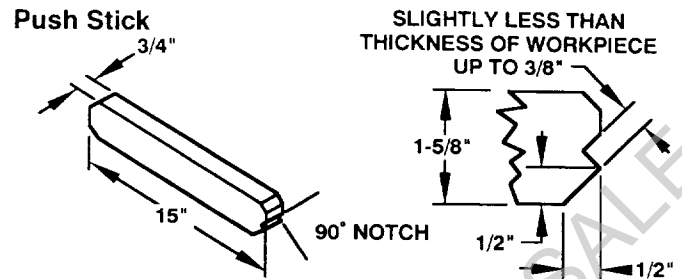
Make the push stick using a piece of 1 x 2. (see drawing top right for dimensions and shapes)

Push Block

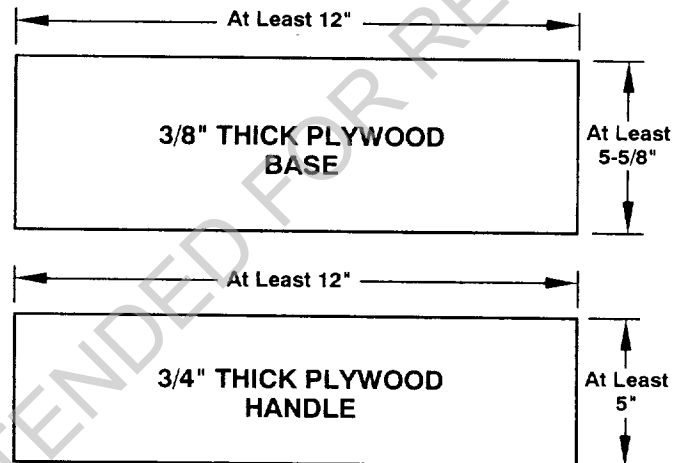
There are any number of ways to properly cut your work pieces to make a push block. The following steps describe one way you can proceed:

Making the base:

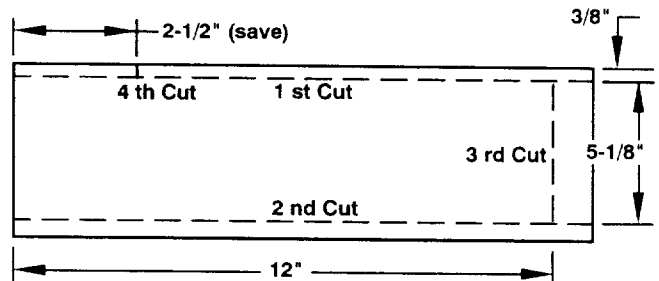
- Start with a piece of 3/8" plywood at least 5-5/8" wide or wider and 12" long or longer.
- Make two ripcuts. Perform the first ripcut along the long side of the 3/8" plywood to create a 3/8" wide strip. Next ripcut the 3/8" plywood to a width of 5-1/8".
- Crosscut the 3/8" plywood to 12" long.
- Crosscut a 2-1/2" piece off of the 3/8" wide by 3/8" thick strip and save this short piece for later.
- The next cuts will create the 3/8" by 9-1/2" notch in the base. Mark the long edge of the board 2-1/2" from one end. Make a crosscut into the edge, stopping about 3/4" into the board. Set the saw to the in-rip position and rip the width to 4-3/4" along the same edge as the stopped crosscut. Stop the ripcut where the two cuts intersect. Turn off the saw and remove the base piece. The base should now measure as shown.



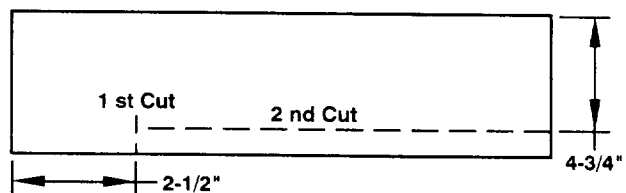
Material For Push Block



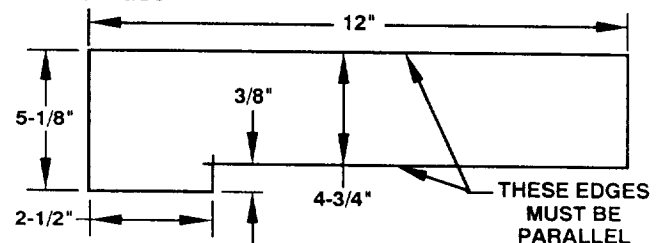
Cutting out the Base



Creating the Notch



Finished Base



Cutting Aids

Making the handle:

- Miter crosscut a piece of 3/4" thick plywood to the shape and size shown. The mitered corners can be any size that looks like the drawing (about 1-1/2" by 1-1/2").

Putting it together:

- Using good quality wood working glue, glue the 2-1/2" strip saved earlier to the base as shown. **Important:** Do not use nails or screws. This is to prevent dulling of the saw blade in the event you cut in to the push block.

- Position the handle at the edge of the plywood base as shown. Fasten them together with glue and wood screws.

Important: Make sure the screw heads do not stick out from the bottom of the base. The bottom must be flat and smooth enough to slide along the auxiliary fence you are now ready to make.

Auxiliary Fence:

Making the base:

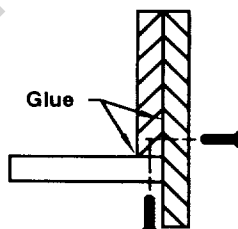
- Start with a piece of 3/8" thick plywood at least 5-1/2" wide and at least 30" long.
- Cut the piece to 5-1/2" wide and 30" long.

Making the side pieces:

- Using 3/4" plywood at least 30" long, rip-cut one piece 2-1/4" wide and one piece 3-1/4" wide.
- Separately, crosscut both pieces to 30" long.

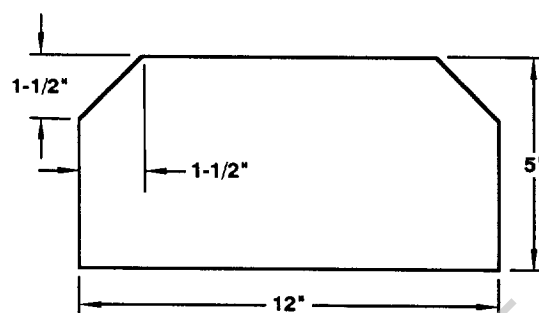
Putting it together:

- Glue and then fasten with screws the side pieces to the base as shown. Make sure the edge of the base and the face of the side piece are parallel as indicated in the note next to the drawing. **Important:** Make sure the screw or nail heads do not stick out from the bottom of the base. The bottom must be flat and smooth enough to rest on the saw table without rocking.

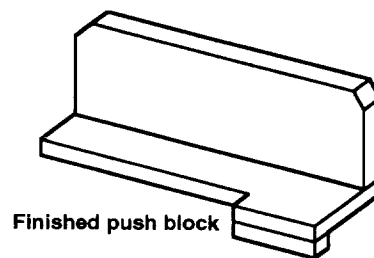
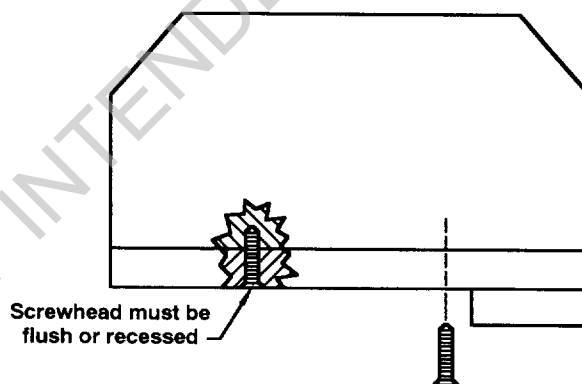
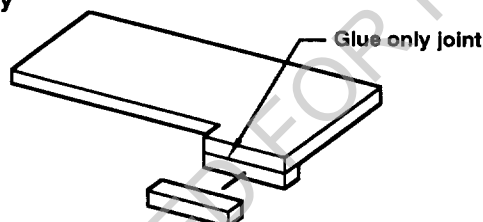


Use 2 screws in at least 2 equally spaced locations along fence (for a total of 4 screws)

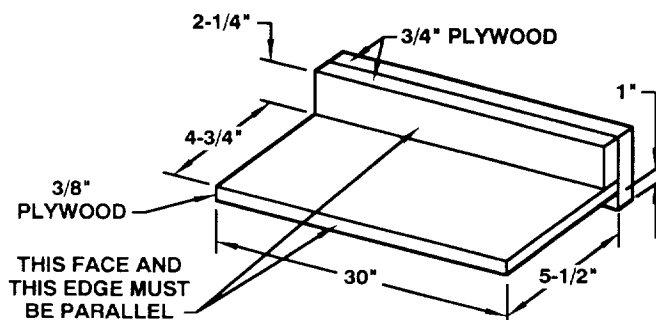
Cutting out the handle



Assembly



Auxiliary Fence



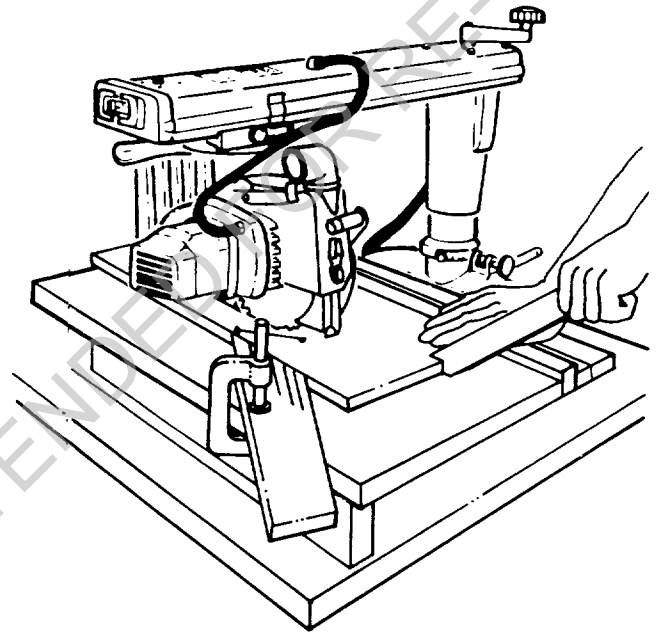
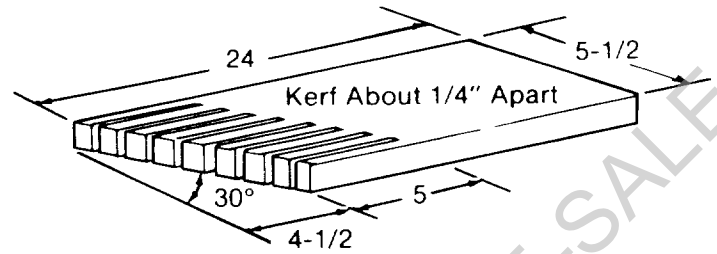
Cutting Aids

Featherboard

Use a featherboard on the infeed side during ripping to help keep the workpiece against the fence.

To make a featherboard, use knot-free 3/4" lumber 5-1/2" wide. Miter crosscut lumber at a 30° angle to 24". Rip to make 5" long cuts about 1/4" apart.

Clamp the featherboard to the front table, so that the angled edge of the featherboard is against the workpiece on the infeed side of the blade. **Do not clamp the featherboard against the cut off part (out-feed side) of the workpiece.** If clamped to the outfeed side, the featherboard can squeeze the kerf closed, put binding pressure on the blade, and cause kickback.



Straight Edge for Irregular Workpiece

WARNING

If you try to rip an irregular workpiece, it could bind blade and cause kickback.

If the workpiece you want to rip does not have a straight edge, attach a straight-edged board to the workpiece:

- place irregular side of workpiece against fence
- put straight-edged board on top of workpiece and against fence
- tack straight edged board to work piece.

Note: *Straight-edged board must not extend beyond leading end of workpiece and should cover workpiece width only enough to pass between blade and fence.*

Note: *Use fence at least as high as combined heights of workpiece and straight-edged board.*

Accessories

Safety Information For Optional Accessories

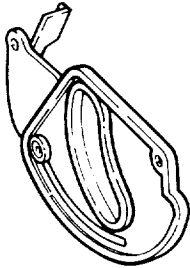
Note: The following safety information and instructions apply to all blades and other accessories.

1. Use only accessories listed in this section. Use of any other accessory or attachment might increase the risk of injury to you or others.
2. Read and follow instructions that come with accessory.
3. Remove blade wrenches before turning saw on.

DANGER:

Grinding wheels, abrasive or cut off wheels, or wire wheels can break explosively and throw pieces. You can be blinded or receive a life threatening puncture wound. Do not use grind wheels, abrasive or cut off wheels, or wire wheels.

Inner Blade Guard (OSHA) (Not supplied with saw. Available only as an accessory)



The inner blade guard is required by the Occupational Safety and Health Administration (OSHA) if the radial saw is used commercially. The inner blade guard is intended for use only in repetitive 90° cross-cutting.

Repetitive 90° crosscutting is the repeated and continuous cutting of many pieces of lumber to the same length with the saw placed in the 90° crosscut position.

In repetitive 90° crosscutting, the inner blade guard may reduce the chance of accidentally touching the blade from the side. This protection is possible **ONLY** when:

- the blade is in its rearmost position and
- the guard is resting on the table so the leading and trailing teeth of the blade are not exposed from the sides.

The inner guard **ONLY** provides protection against minor lacerations and bruises that occur from contact with the flat sides of the spinning blade.

WARNING:

Inner blade guard will not provide any protection if blade is pulled over your hand, or your hand enters blade path from front or rear of blade. Fingers or hand can be cut off.

WARNING:

Remove inner blade guard for ALL other types of cuts except repetitive 90° crosscutting. Using inner guard other than for repetitive 90° cross-cutting will increase risk of certain hazards:

- During rip and bevel cuts, the workpiece or narrow cut-off pieces can be pinched between the accessory inner blade guard and the blade. Workpiece or cut-off pieces can kickback.
- In the bevel position the blade teeth are fully exposed. Fingers or hand can be cut.
- Cut off pieces can jam between the guard and blade. Turn saw off and wait for blade to stop before freeing a jammed guard or blade.
- Workpiece or cut-off pieces can be violently thrown by the blade. Wear safety goggles.

CAUTION:

Inner blade guard can get caught or jam in fence or table, kerfs.

Read and follow the warning on the lower outer guard:

WARNING:

To avoid injury shut off power before clearing a jammed inner blade guard

Information for Dado

1. Put inside loose collar on arbor shaft first, then install dado. Tighten blade nut directly against outside surface of dado.

2. Saw arbor is designed for dado up to 9/16" wide. Use of wider dado could cause dado and blade nut to spin off. To make larger than 9/16" wide cut, take several passes with dado.

3. To avoid excessive load on motor when making a 9/16" wide cut, limit depth of cut to 1/8" in one pass.

Radial Saw Accessories

These accessories are designed to fit this saw. Read and follow instructions that come with accessory.

Item **Catalog No:**
 Saw blades (8-1/4" diameter with 5/8" hole) See Catalog
 Taper Jig See Catalog
 Dado Set See Catalog
 Leg Set 9-22244

Books

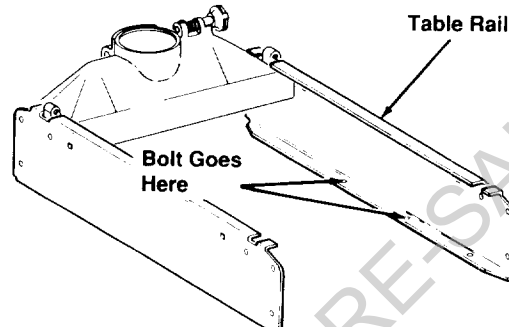
Power Tool Know How Handbook....9-29117

Guards

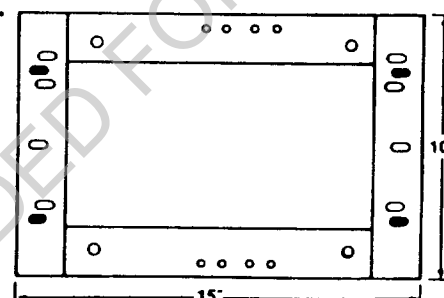
Inner Blade Guard(OSHA)* for 90°
 Repetitive Crosscut Only9-29014

*See the information and instructions about the lower retractable guard in this section.

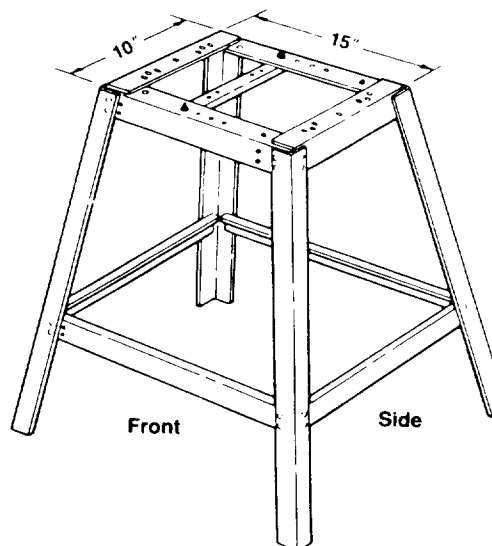
Mounting Radial Saw to Leg Set No. 9-22244



Note: Bolts pass thru the second and third holes in the table rails. Do not use the first hole.



FRONT OF RADIAL SAW



Catalog No. 9-22244 Leg Set (not included with radial saw)

Recommended hardware (not included) for
 Mounting Radial Saw to Legset:

- 4—1/4-20 x 1-1/2 hex head bolts
- 4—1/4-20 hex nuts
- 4—1/4 lock washers
- 4—1/4 flat washers

Attach radial saw to holes indicated.

Maintenance

General Information

When new, the saw requires no lubrication. The saw has been partially aligned and all bearings are lubricated and sealed for life. In time, in order to keep the saw in good working order, it will be necessary to clean, lubricate and re-align.

WARNING

To avoid shock, burns, or lacerations from accidental start up of saw, turn power switch off and unplug saw before doing maintenance or servicing saw.

Cleaning

Periodically remove any heavy build-up of sawdust that may accumulate on the saw. The absorbing tendency of sawdust will draw lubricants away from the areas where they are needed. Wipe the carriage bearings and track surfaces with a dry or lightly oiled cloth.

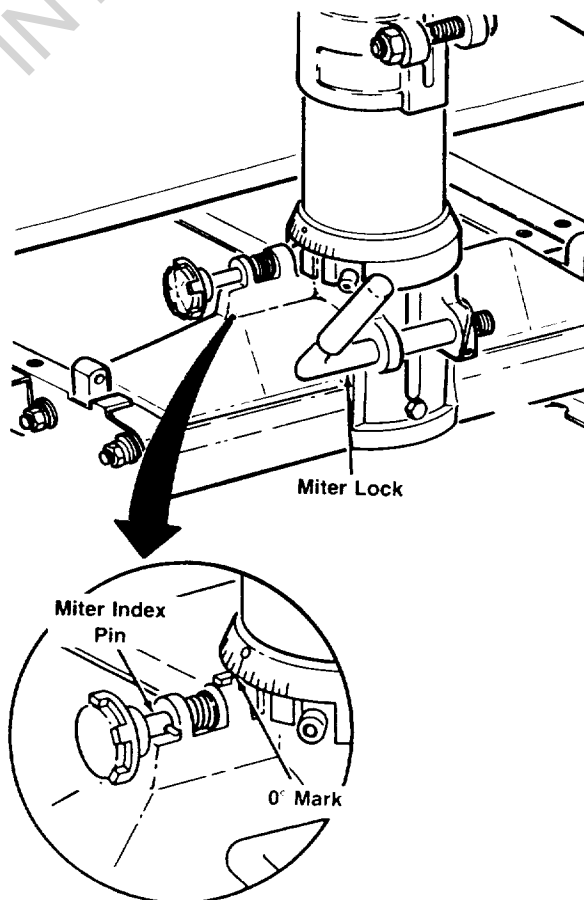
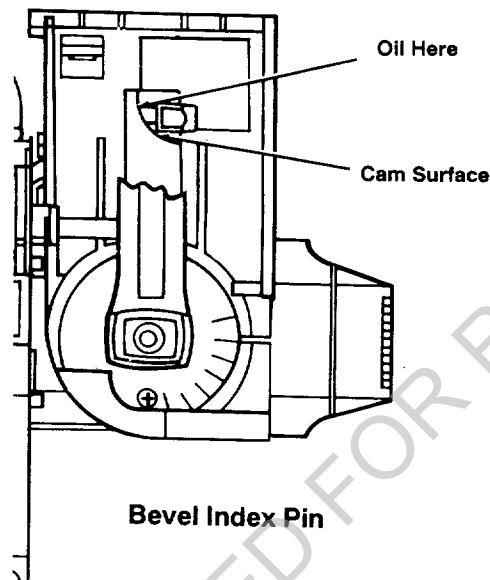
To avoid motor damage due to sawdust build-up, which interferes with normal motor ventilation, vacuum the motor often.

Lubrication

Do not lubricate motor bearings, carriage bearings, or the area between the miter lock and the column tube. Motor and carriage bearings are sealed and do not need added lubrication.

Areas that should be lubricated periodically are the bevel index pin, miter index pin, and column tube.

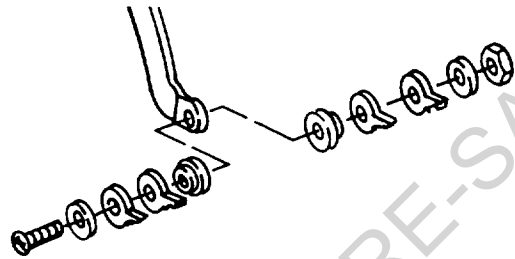
You can lubricate other points if necessary, but only when sticking or binding occurs. Use a small amount of SAE No. 10W30 automotive engine oil. Excess oil attracts air-borne dust and sawdust.



Replacing Pawls

Make sure the teeth of the pawls are always sharp. If they become dull the pawls must be replaced:

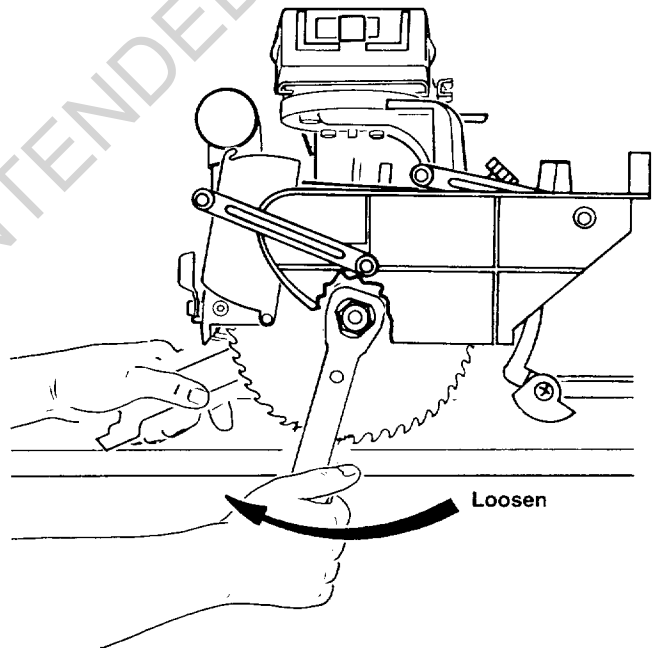
1. Use 7/16" wrench to remove hex nut. Remove old pawls.
2. Install new pawls. Place spacers exactly as shown.
3. Re-install hex nut.



Blade Changing

To change the saw blade:

1. Check that saw is unplugged, switch is "off", and yellow key is out.
2. Unlock rip lock, pull blade carriage out to end of radial arm, and lock rip lock.
3. Unlock swivel lock, depress swivel index pin, and put blade in out-rip position (motor toward fence). Lock swivel lock.
4. Raise lower guard.
5. Loosen coverplate screw and rotate coverplate out of way.
6. Use both blade wrenches in scissor action to loosen blade nut. **Note:** Nut has left hand threads.
7. Remove nut, blade collar, and blade. Insert new blade, making sure that blade rotation arrow points in same direction as arrow on guard points.
8. Re-install blade collar and nut, Tighten nut. **Note:** Do not overtighten nut because this can cause blade collar to warp and blade to wobble during cutting.
9. Rotate coverplate back into position and tighten coverplate screw.



⚠ WARNING:

Never use the saw without the coverplate securely in place. It keeps the nut from falling off if it accidentally loosens, and prevents the spinning blade from coming off the machine.

Maintenance

Lubricating Blade Guard Assembly

If guard becomes difficult to raise:

1. Clean sawdust from the slot and slider.
2. Regrease with a small amount of light grease applied to the slot and slider. Also add a thin coat of grease between the Trigger and the Pull Link.

Adjusting the Trigger

If the Trigger becomes loose side-to-side, adjust the setscrews at the top of the Yoke Handle. Use a 1/8" hex wrench to tighten setscrews tight. Then back off one setscrew until the Trigger moves freely.

Adjustments for Wear

Bevel Lock

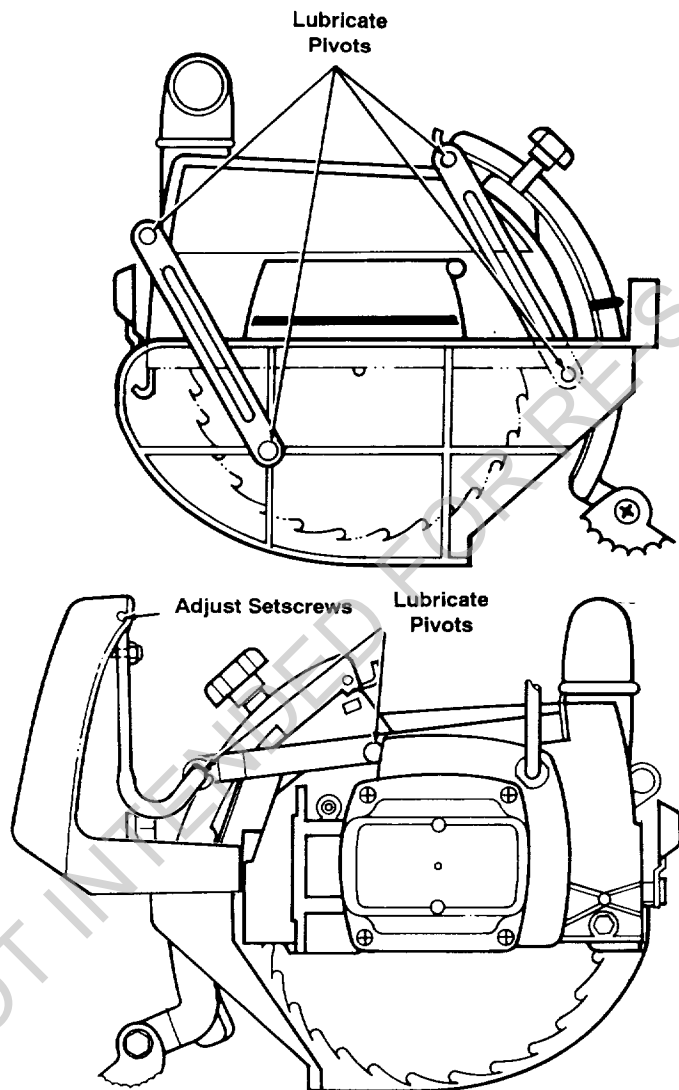
The bevel lock needs adjustment if the motor can be moved by hand when the bevel lock is locked. To make adjustment:

1. Use 1/8" hex wrench to loosen screw under right corner (pivot point) of bevel lock just enough to allow bevel lock lever to drop down. (See figure 2, Repair Parts).
2. Use bevel lock lever as wrench to increase locking characteristics.
3. Test lock for desired locked/unlocked condition. Repeat step 2 if necessary.
4. Tighten screw.

Swivel Lock

The swivel lock is a friction lock that prevents play between the yoke and carriage (#41 and #12, figure 2, Repair Parts). It needs adjustment if the lock handle has to be moved more than 90° to lock. To make adjustment:

1. Use 15/16" wrench to tighten nut (#1, figure 2, Repair Parts).
2. Test lock, and repeat step 1 as needed.



Carriage Bearings

The carriage should roll freely but with some resistance for the entire length of travel. If the carriage moves too freely or with too much resistance, the bearings need adjustment. To adjust, follow the instructions under Carriage Bearings in Alignment and Adjustment.

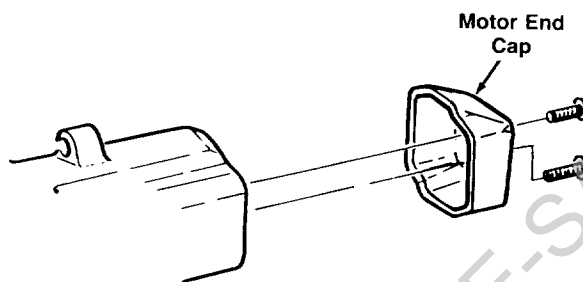
Miter Lock

If the radial arm can be moved by hand when the miter lock is locked in an unindexed position, the lock needs adjustment. To adjust, follow the instructions under Miter Lock Assembly.

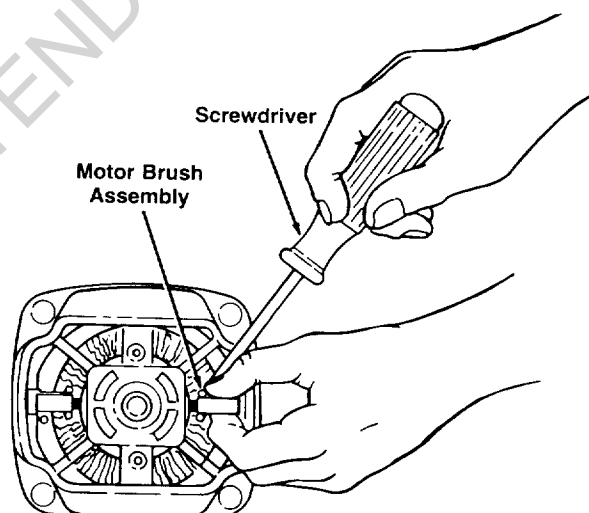
Motor Brush Assemblies

The motor brush assemblies that come with the saw will last about 100 cutting hours. Replace both carbon brushes when either has 1/4" length or less of carbon left. To inspect brushes:

1. Check that saw is unplugged, switch is "off", and yellow key is out.
2. Remove two screws that hold motor end cap in place, and take off end cap.

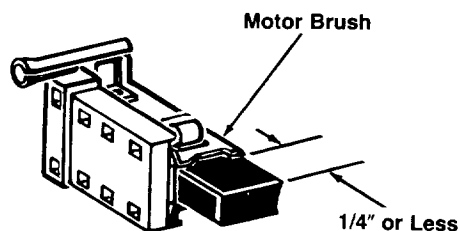


3. Use flat head screwdriver to gently pry each motor brush assembly forward. Rotate slightly to remove.



4. Inspect length of brush. If length of either brush is 1/4" or less, replace both with new assemblies; otherwise, put back same assemblies.

5. Re-install motor end cap and screws.



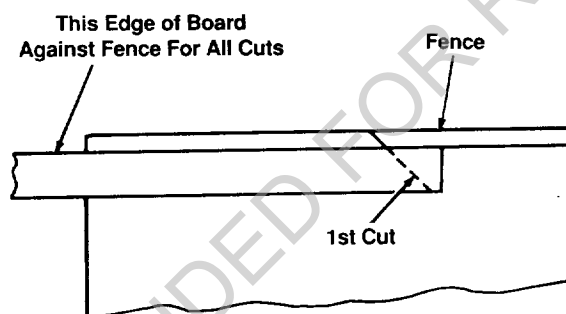
Troubleshooting

HAVE YOU FOLLOWED ALL STEPS OF THE ALIGNMENT PROCEDURE? IF YOU HAVE NOT FOLLOWED THEM IN THEIR PROPER SEQUENCE, YOU CANNOT EXPECT ACCURATE CUTTING RESULTS.

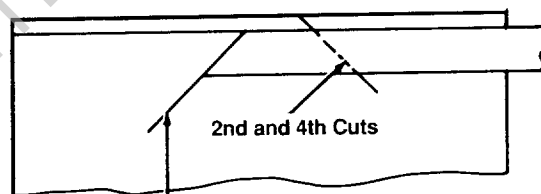
In addition to the proper alignment of your saw, you must also become familiar with the following practices in order to expect the best results.

1. Edge of workpiece which is placed against fence must be as straight as the long side of your framing square.
2. Workpiece must be as flat as the front table board on your saw.
3. There must be no sawdust or other wood chips between the fence and the front table board.
4. There must be no sawdust or other wood chips underneath workpiece or between workpiece and fence.
5. Workpiece must be held tightly against fence and down against the table...this is especially important when making angle cuts because the workpiece has a tendency to move.
6. Always use the correct sawblade for the job...Always keep it sharp.
7. When making a four sided frame:
 - a. The two side pieces must be exactly the same length.
 - b. The top and bottom pieces must be exactly the same length.
 - c. Always place the same edge of the workpiece against, the fence...turn the workpiece end for end for the successive cuts and mark a pencil line on the table for gauging the required length.

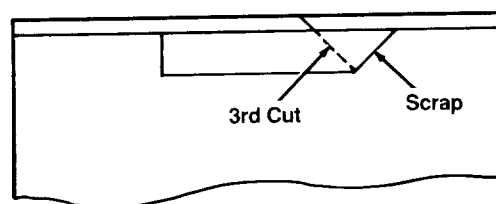
Deviation from any of the above practices will have an effect on the accuracy of the cuts that you make.



Turn Workpiece Over End For End...Keep Same Edge Against Fence When Making Successive Cuts.



Pencil Line For Gauging Required Length



Troubleshooting

Motor Problem	Possible Cause(s)	What to Do
Motor overheats or stalls	Overloaded power line	Reduce line load by removing other lights, appliances
	Feeding rate too fast	Slow down rate of feed
	Improper motor cooling	Vacuum sawdust from motor to allow normal air circulation
	Saw blade has heel	Check alignment
	Saw blade is dull	Sharpen blade
While motor is running, fuses blow	Motor Overloaded	Slow down rate of feed
	Need 15 amp circuit	Call your electrician
	Need 15 amp slow-blow fuse	Install correct fuses
	Low voltage	Check voltage. Normal loads can be safely handled at 10% above or below nameplate voltage; heavy loads need same voltage at motor terminal as on nameplate
Motor starts slowly or fails to come to full power	Incorrect gauge extension cord	Refer to table in Electrical Connections
	Overloaded power line	Reduce line load by removing other lights, appliances
	Undersize wires or circuit too long	Increase wire size or shorten length of wiring
Motor will not run	Low voltage	Check power line for correct voltage
	Sawdust build-up	Vacuum motor
	Bent or bound-up arbor shaft	Check that shaft turns freely by hand; if it doesn't, contact Sears
Fuses blow when motor is turned on	Internal damage	Take saw to Sears for service

Troubleshooting

Cutting Problem	Possible Cause(s)	What to Do
Inaccurate cut	Loose locks	Check miter, rip, bevel, and swivel locks. See Adjustments section
	Saw blade out of alignment	Check alignment
Crosscuts not accurate at indexed miter positions	Sawdust between workpiece and fence	Keep front table clean
	Fence not straight	Replace fence
	Swivel lock loose or not locked	Adjust swivel lock for wear
	Crosscut travel not square with fence	Square blade crosscut travel
	Carriage assembly loose on arm	Adjust carriage bearings, then realign saw
	Arm not indexing properly	Adjust miter lock for wear
	Looseness between column tube and column support	Adjust column support
Depth of crosscut varies from one side of workpiece to other	Table not parallel with radial arm	Adjust table supports
Saw cuts at slight bevel	Blade not square to table	Square blade to table for crosscutting and ripping
	Table not parallel to radial arm	Adjust table supports
	Bevel lock loose	Adjust bevel lock
	Work table not flat	Adjust or replace table
	Carriage bearings loose	Adjust carriage bearings, then realign saw
Workpiece kerf rough with tooth marks from blade	Blade not square to fence	Square blade to fence
	Using improper blade for desired finish cut	Use proper smooth-cutting blade
Blade tends to advance through workpiece too fast during crosscutting	Blade dull	Sharpen or replace blade
	User pulls blade through workpiece too fast	Pull blade slowly and steadily through workpiece

Troubleshooting

Cutting Problem

Workpiece strikes riving knife during ripping

Possible Cause(s)

Riving knife not in line with blade

What to Do

Align riving knife to blade

Workpiece binds, smokes, and motor slows or stops when ripping

Saw blade out of alignment

Re-align

Warped workpiece

Do not cut severely warped pieces

Feed rate too fast

Slow feed rate

Carriage assembly loose

Adjust carriage bearings, then realign saw

Fence not straight

Replace fence

Dull or incorrect blade

Sharpen or replace blade

Board pulls away from fence during ripping

Saw blade out of alignment

Re-align

May occur as normal result of applying feed pressure

Use featherboard on infeed side

Saw Problem

Radial arm moves when locked in a non-indexed miter position

Possible Cause(s)

Miter not locked firmly

What to Do

Adjust miter lock for wear

Motor moves when bevel lock is locked

Bevel not locked firmly

Adjust bevel lock for wear

Yoke moves when rip lock is locked

Rip lock not locked firmly

Adjust rip lock for wear

Blade carriage does not travel smoothly on arm

Dirty track

Clean and lubricate track

Carriage bearings set too tight

Adjust carriage bearings, then re-align saw

Rip lock rubbing track

Loosen Rip Lock

Worn steel track

Replace track

Bad carriage bearing

Replace carriage bearing

Blade does not stop spinning within 15 seconds after saw is turned off

Blade nut loose

Tighten blade nut

Internal damage

Take saw back to Sears for service

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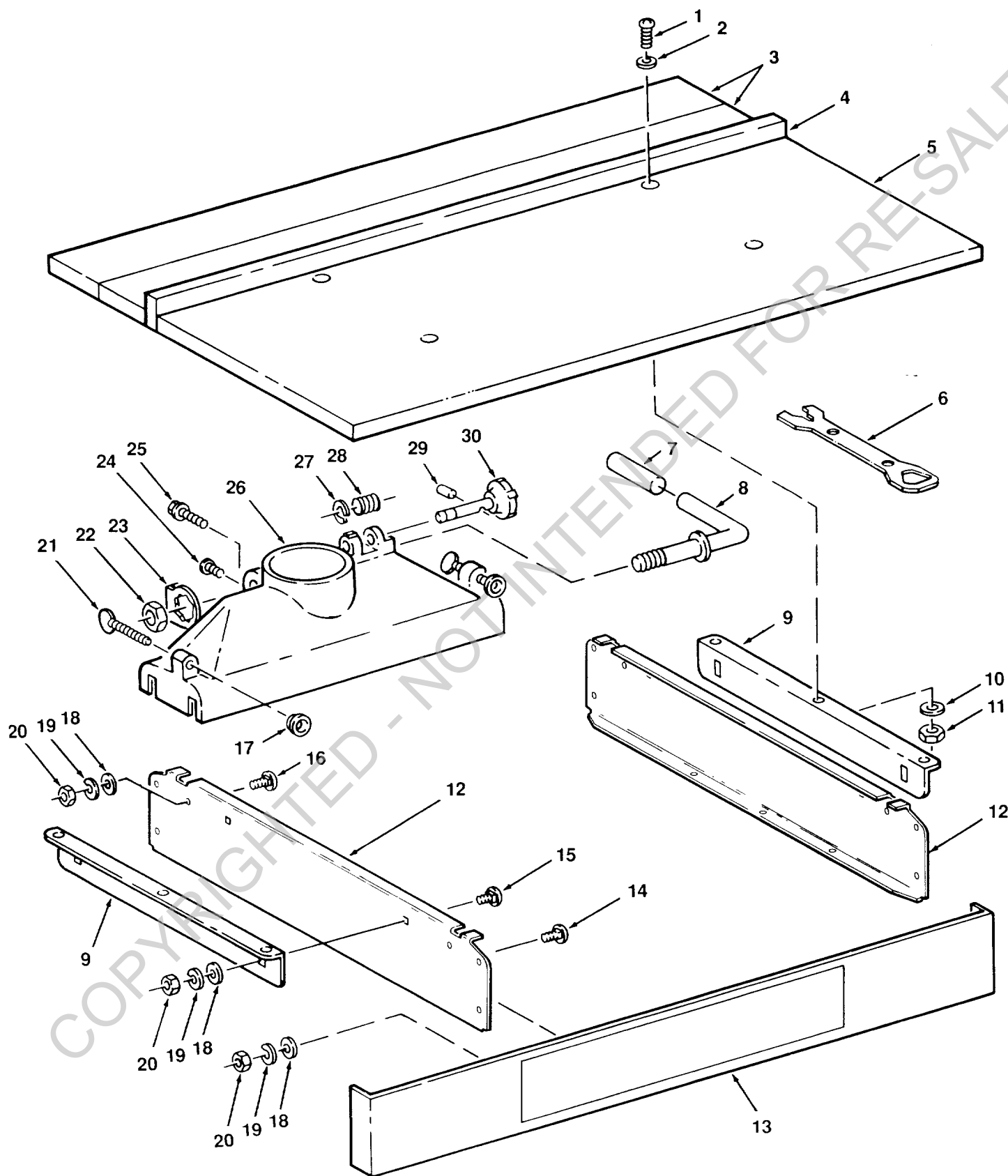
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Repair Parts

PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

FIGURE 1



Repair Parts

PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

Always order by Part Number — Not by Key Number

FIGURE 1

Key No	Part No.	Description	Key No	Part No.	Description
1	STD512510	* Screw-Pan Hd 1/4-20 x 1	17	818161	Shoe-Table Clamp
2	STD551025	* Washer-17/64 x 5/8 x 1/32	18	9418304	Washer-21/64 x 3/4 x 1/32
3	818745	Table-Rear	19	STD551131	* Lockwasher-5/16
4	818693	Fence-Rip	20	STD541031	* Nut-5/16-18
5	821484	Table-Front	21	818162	Screw-Clamp
6	3540	Wrench	22	STD541050	* Nut-Hex Jam 1/2-13
7	819447	Grip	23	818702	Retainer-Nut
8	818746	Lever-Tube Locking	24	STD601103	* Screw-Pan Hd TY "TT" 10-32 x 3/8
9	818928	Mount-Table Angle	25	815865-1	Screw-Hex Wash Hd 1/4-20 x 3/4
10	STD551125	* Lockwasher-1/4	26	818762	Base
11	STD541025	* Nut-Hex 1/4-20	27	STD581037	* Ring-Retaining 5133/37
12	818747	Rail-Table	28	818719	Spring-Miter Index
13	818929	Stiffener Rail	29	STD571207	* Pin-Roll 1/8 x 3/4
14	806150-2	Screw-Truss Hd 5/16-18 x 5/8	30	820005	Pin-Miter Index
15	809019-1	Bolt-Rd Hd Short Neck 5/16-18 x 1/2		SP5646	Owners Manual (Not Illustrated)
16	455722	Bolt-Rd Hd Short Neck 5/16-18 x 3/4			

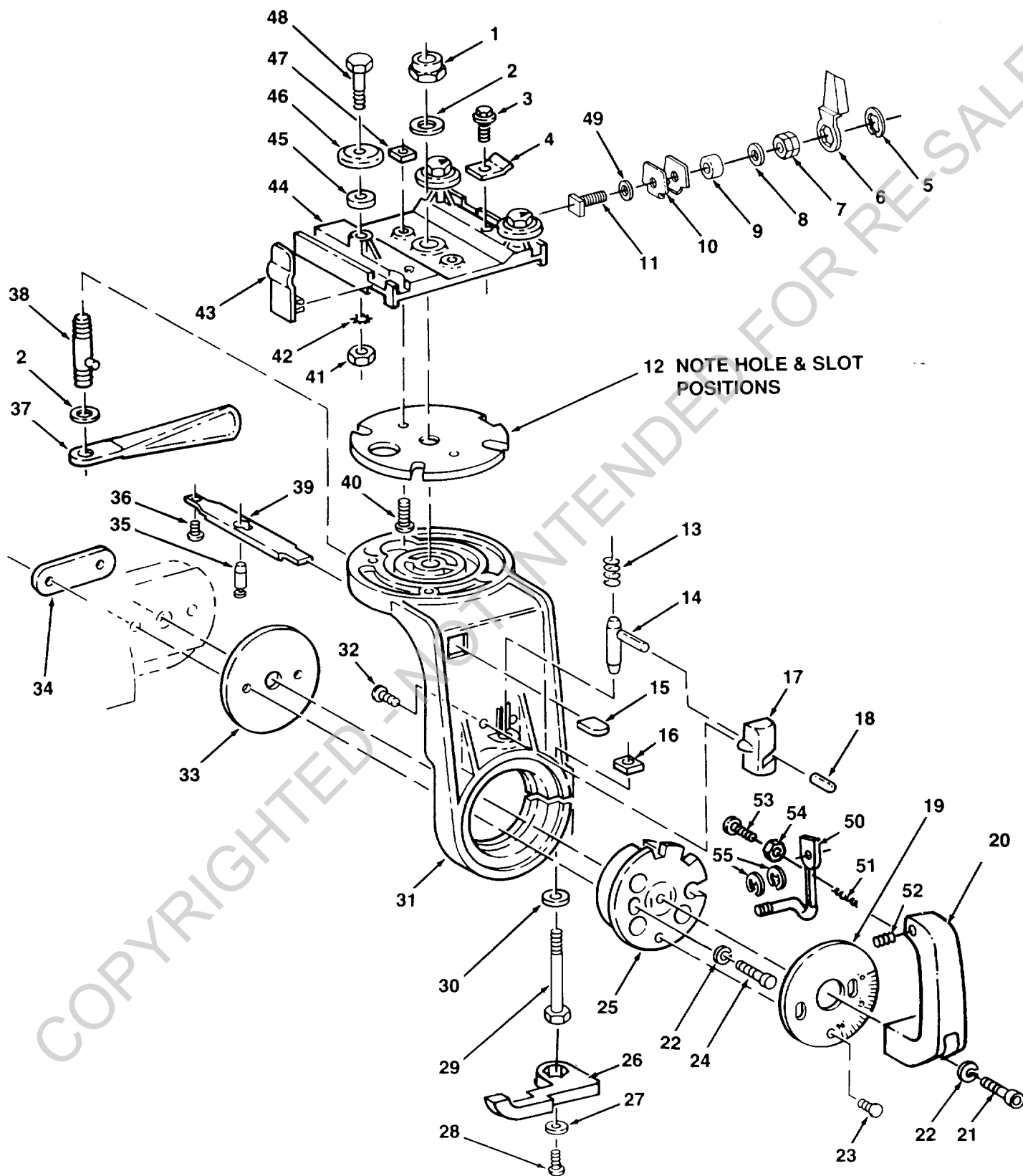
* Standard Hardware Item — May Be Purchased Locally.

† Stock Item — May Be Secured Through The Hardware Department Of Most Sears Retail Stores.

Repair Parts

PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

FIGURE 2



Repair Parts

PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

Always order by Part Number — Not by Key Number

FIGURE 2

Key No	Part No.	Description	Key No	Part No.	Description
1	STD541462	* Nut-Lock 5/8-11	29	805797-1	Screw-Hex L.H.
2	60047	Washer-.630 x 1 x 1/32			5/16-18 x 2-3/4
3	815865-2	Screw-Hex Washer Hd	30	9418304	Washer-21/64 x 3/4 x 1/32
		1/4-20 x 1/2	31	818765	Yoke
4	818883	Catch-Safety	32	808380-7	Screw-Pan Hd 10-14 x 1/2
5	805644-6	* Ring-Retaining 5131-43	33	818714	Plate-Bevel
6	818900	Wrench	34	818722	Nut-Double
7	818902	Nut-Hex Double Lead 1/4-20	35	818708	Pin-Yoke Index
8	STD551012	* Washer-17/64 x 9/16 x 1/16	36	806828	Screw-Round Hd TY "TT"
9	802279-11	Bushing			1/4-20 x 1/2
10	821186	Lock-Rip	37	818712	Lever
11	818901-1	Screw-Rip Lock	38	818886	Stud-Yoke Clamp
12	818749	Plate-Index	39	818717	Spring-Yoke Index
13	63658	Spring-Index	40	817398-1	* Screw-Soc Cap Lock
14	818713	Pin-Index			1/4-20 x 5/8
15	818710	Grip	41	STD541031	* Nut-Hex Jam 5/16-18
16	820013	Nut-Square L.H. 5/16-18	42	STD551131	* Lockwasher-Ext 5/16
17	818733	Cam-Bevel Index	43	818882	Indicator-Rip
18	802884-25	Grip	44	821188	Carriage
19	818726	Scale-Bevel	45	STD551031	* Washer
20	821496	Handle-Yoke			21/64 x 5/8 x 1/32
21	141594-47	* Screw-Soc Cap	46	37386	Bearing-Carriage
		1/4-20 x 2	47	62636	Nut-Square 1/4-20
22	STD551225	* Lockwasher-1/4	48	818887	Eccentric
23	STD601103	* Screw-Pan Hd TY "T"	49	60442	Washer 17/64 x 7/16 x 1/16
		10-32 x 1/4	50	821486	Trigger
24	431957	Screw-Soc Cap	51	30521	Spring Swivel Latch
		1/4-20 x 1-5/8	52	60288	Screw Lock Set 1/4-20 x 3/8
25	818757	Ring-Index	53	816333-5	Screw Pan Hd Type "TT"
26	818711	Lever-Bevel Lock			10-32 x 3/4
27	STD551210	* Lockwasher-Int N10	54	STD541110	* Nut Hex 10-32
28	806214	* Screw-Soc Button Cap	55	STD581037	* Ring Retaining
		10-32 x 5/8			

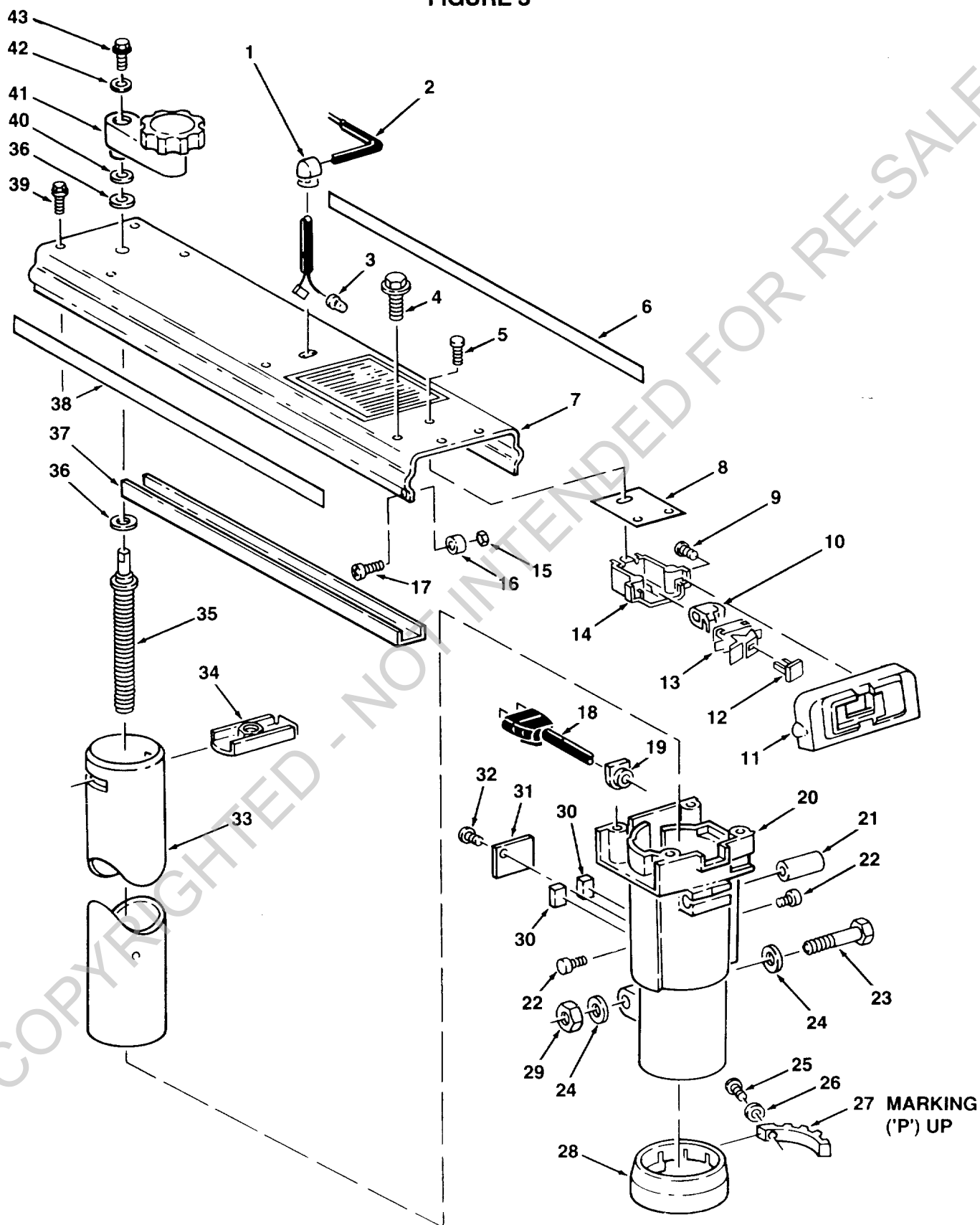
* Standard Hardware Item — May Be Purchased Locally.

† Stock Item — May Be Secured Through The Hardware Department Of Most Sears Retail Stores.

Repair Parts

PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

FIGURE 3



Repair Parts

PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

Always order by Part Number — Not by Key Number

FIGURE 3

Key No.	Part No.	Description
1	818754	Relief-Strain
2	818697	Cord-Motor
3	STD375006	*Connector-Wire
4	819449	Screw-Hex Washer Hd TY"TT" 5/16-18 x 1-1/2
5	808380-5	Screw-Pan Cr #8
6	823900	Label Trim R.H.
7	818921	Arm
8	818718	Insulator
9	808380	Screw-Pan Hd 8-16 x 1/2
10	63467	Cap-Flag Terminal
11	818879	Trim-Front Arm
12	9-22256	† Key-Switch
13	816113	Switch-Locking
14	818934	Housing-Switch
15	STD541008	* Nut-Hex 8-32
16	818881	Bumper-Front
17	STD510807	* Screw-Pan Hd 8-32 x 5/8
18	820092	Cord w/Plug
19	815868	Relief Strain
20	818773	Support-Arm
21	818880	Bumper-Rear
22	817398	Screw-Soc Cap Locking 1/4-20 x 3/4
23	STD525025	* Bolt-Hex 1/2-13 x 2-1/2

Key No.	Part No.	Description
24	STD551050	* Washer-17/32 x 1 x 1/16
25	815992-1	Screw-Soc Cap TY"TT" 1/4-20 x 3/4
26	STD551225	* Lockwasher-1/4
27	818737	Latch-Arm
28	818926	Scale-Miter
29	STD541450	* Nut-Hex Lock 1/2-13
30	818706	Gib
31	818731	Cover Plate-Gib
32	STD601103	* Screw-Pan Hd TY"TT" 10-32 x 3/8
33	818705	Tube
34	818224	Nut-Elevation
35	818878	Shaft-Elevation
36	63500	Washer-Thrust .502 x .927 x .031
37	818709	Cover-Channel
38	823899	Label Trim L.H.
39	815865-1	Screw-Hex Wash Hd 1/4-20 x 3/4
40	STD551043	* Washer-15/32 x 47/64 x 1/16
41	818735	Crank
42	STD551025	* Washer-17/64 x 5/8 x 1/32
43	815865-2	Screw-Hex Washer Hd TY"TT" 1/4-20 x 5/8

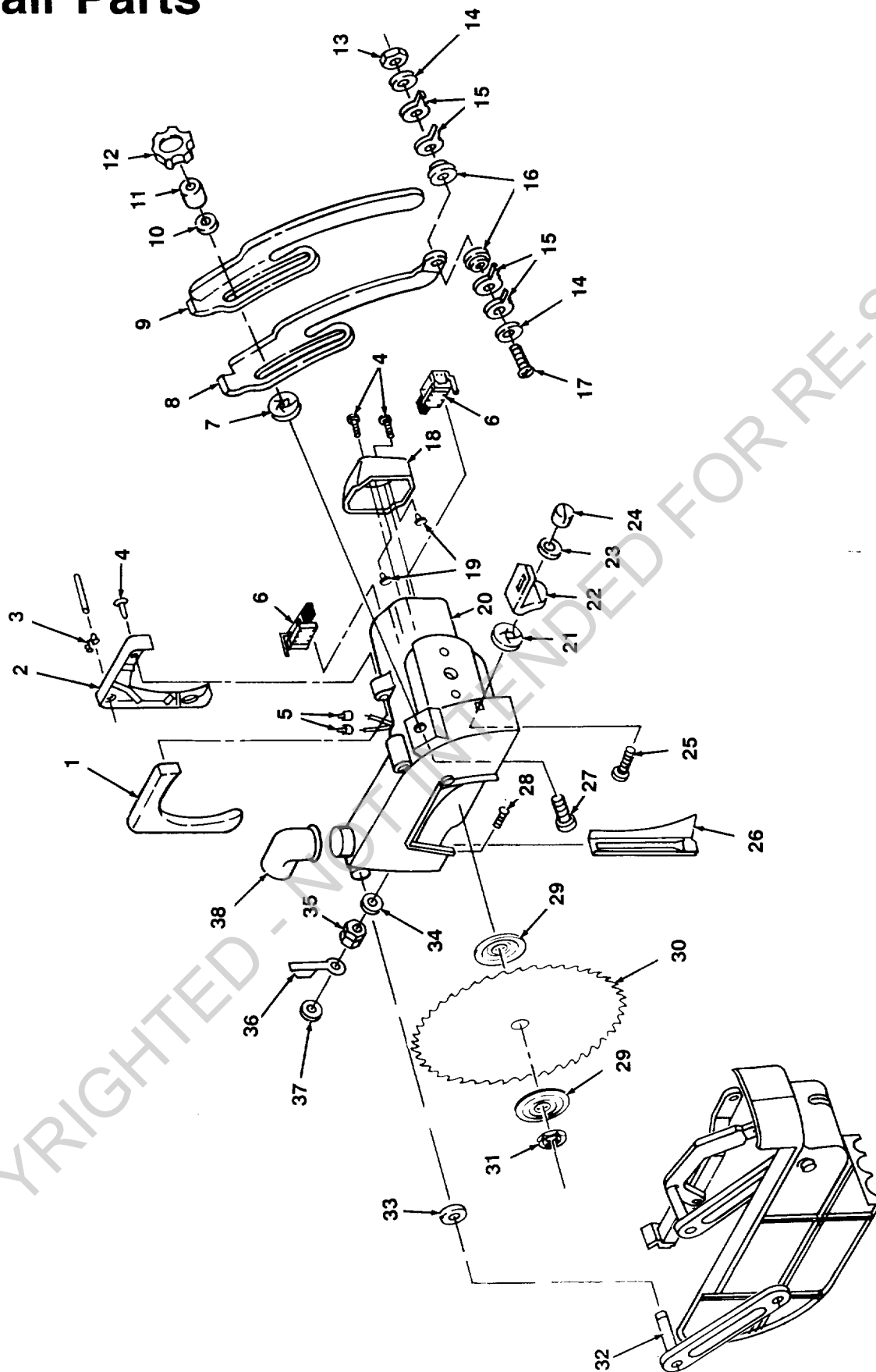
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Repair Parts

PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

FIGURE 4



PARTS LIST FOR 8 1/4" RADIAL SAW MODEL NO. 113.234800

Always order by Part Number — Not by Key Number

FIGURE 4

Key No	Part No.	Description	Key No	Part No.	Description
1	818741	Cover Connector L.H.	20	821479	Motor
2	818742	Cover Connector R.H.	21	808822-1	Push Nut 1/4
3	169123-10	Relief Strain	22	821890	Support Knife
4	808380	Screw Pn Cr(Plastite)	23	STD551225	* Lockwasher 1/4
5	803954-3	Wire Connector	24	820519	Nut Slotted
6	355594	Brush Holder	25	STD522506	* Bolt 1/4-20 x 5/8
7	60413	Push Nut 5/16	26	818756	Guard Hold Down
8	821497	Holder AKB	27	809019-4	Bolt-Crge 5/16-18 x 1-3/4
9	821498	Knife, Riving	28	818895	Bolt-Crge Dbl Lead 1/4-20 x 3/4
10	820521	Spacer	29	62498	Collar Blade
11	STD551031	* Washer 21/64 x 5/8 x 1/16	30	818597	Blade 8 1/4" 44 Tooth
12	820529	Knob 5/16-18	31	819425	Nut Brass 5/8-12 Acme
13	161255-6	Nut, Lock 1/4-20	32	823844	Lower Guard
14	STD551025	* Washer 17/64 x 5/8 x 1/16	33	STD582062	* Retaining Ring
15	815815	Pawl Anti-Kickback	34	STD551025	* Washer 17/64 x 1/2 x 1/32
16	820517	Bushing	35	818902	Nut-Hex 1/4-20 DBL Lead
17	STD512510	* Screw Pn Hd 1/4-20 x 1	36	818900	Wrench
18	352813	Cap End	37	805644-6	Ring Retaining
19	354653	Bumper	38	820536	Elbow Dust

* Standard Hardware Item -- May Be Purchased Locally.

† Stock Item - May Be Secured Through The Hardware Departments Of Most Sears Retail Stores.

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Notes

Handwriting practice lines for notes.

Notes

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SEARS

owner's manual

**MODEL NO.
113.234800**

**8-1/4 INCH
RADIAL SAW**

The model number of your radial saw is found on the side of the support arm.

When requesting service or ordering parts, always provide the following information:

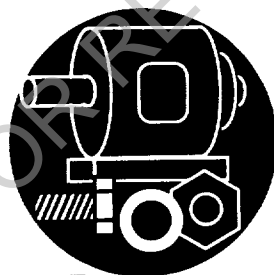
- Product Type
- Model Number
- Part Number
- Part Description

8-1/4 INCH RADIAL SAW

For the repair or replacement parts you need

Call 7 am - 7 pm, 7 days a week

1-800-366-PART
(1-800-366-7278)



For in-home major brand repair service

Call 24 hours a day, 7 days a week

1-800-4-REPAIR
(1-800-473-7247)



**For the location of a
Sears Repair Service Center in your area**

Call 24 hours a day, 7 days a week

1-800-488-1222



**For information on purchasing a Sears
Maintenance Agreement or to inquire
about an existing Agreement**

Call 9 am - 5 pm, Monday-Saturday

1-800-827-6655



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